



United States Department of Agriculture

# **Proposed Revised Land Management Plan for Colville National Forest**

## **Draft Programmatic Environmental Impact Statement**

**Volume II. Chapter 3 (Wildlife through Tribal  
Resources), Chapter 4, Literature Cited, Glossary,  
Appendices, and Index**



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NATIONAL FOREST**

January 2016

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**Proposed Revised Land Management Plan  
for the Colville National Forest  
Draft Programmatic Environmental Impact Statement  
Stevens, Ferry, and Pend Oreille Counties of Washington State**

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**Cooperating Agencies:** Confederated Tribes of the Colville Reservation  
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Spokane Tribe of Indians  
State of Washington  
Ferry County, Washington  
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**Abstract:** This draft environmental impact statement (DEIS) documents the analysis of six alternatives (no action, proposed action, and alternatives P, R, B, and O) developed by the Forest Service for the programmatic management of approximately 1.1 million acres administered by the Colville National Forest. For ease of reference, the accompanying proposed revised land management plan (revised forest plan) reflects the preferred alternative. The alternatives are described in chapter 2. The no-action alternative would keep in place the management direction from the 1988 land and resource management plan (1988 forest plan), as amended. Alternative P is the preferred alternative.

The proposed action and alternatives P, R, B, and O address the following needs for action: (1) maintain or restore ecological conditions that contribute to the recovery and viability of terrestrial plant and wildlife species; (2) manage forest vegetation conditions to be more resilient to disturbances; (3) address climate change implications and vulnerabilities; (4) address changed social and economic conditions and preferences in light of ecosystem capacity; (5) accelerate improvement in watershed condition across the forest; and (6) integrate watershed and aquatic strategies across the forest.

Alternatives P, R, B, and O address new information and concerns that emerged during the implementation of the 1988 forest plan and comply with Federal laws, regulations, and policies. These alternatives also address significant issues (unresolved conflicts with the proposed action) that were identified from comments received during the scoping and public involvement period.

The Forest Service will use the “predecisional administrative review process,” also referred to as the “objection process” described in 36 CFR 219 Subpart B of the 2012 Planning Rule. This process gives an individual or entity an opportunity for an independent Forest Service review and resolution of issues before the approval of a plan revision; this subpart identifies who may file objections to a plan revision, the responsibilities of the participants in an objection, and the procedures that apply to the review of the objection. Generally, individuals and entities who have submitted substantive formal comments related to this plan revision during the opportunities for public comment for this decision may file an objection.

It is important that reviewers provide their comments at such times and in such a way that they are useful to the agency’s preparation of the final EIS and proposed revised forest plan. Therefore, comments should be provided before the close of the comment period and should clearly articulate the reviewer’s concerns and contentions. The submission of timely and specific comments can affect a reviewer’s ability to participate in subsequent administrative or judicial review. Comments received in response to this solicitation, including names and addresses of those who comment, will be part of the public record for this proposed action. Comments submitted anonymously will be accepted and considered; however, anonymous comments will not provide the respondent with standing to participate in subsequent administrative or judicial reviews. Comments on the DEIS should be specific and should address the adequacy of the statement and the merits of the alternatives discussed (40 CFR 1503.3)

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**Date Comments Must Be Received:** Within 90 days following publication of the notice of availability of the DEIS in the Federal Register. The notice is expected to be published on or around February 5, 2016; however, it is the commenter’s responsibility to calculate the end of the 90-day period.

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## Wildlife

This section considers federally listed threatened, endangered, and sensitive wildlife species, and surrogate wildlife species from the wildlife specialist report (Gaines 2015), with special emphasis on the issues of old forest management and timber production, motorized recreation trails, access, and wildlife.

## Affected Environment

The Colville National Forest provides a wide-array of habitats for a diversity of wildlife species. The species addressed in forest planning include federally listed species, surrogate species (including Management Indicator Species and R6 Sensitive Species), endemic species, and other species of management interest.

## Federally Listed Wildlife Species

Since the completion of the current forest plan, new wildlife species have been listed (Canada lynx) and others delisted (peregrine falcon, bald eagle, gray wolf). And, new science is available concerning those species that were included in the current forest plan.

### Woodland Caribou

The woodland caribou was federally listed as an endangered species in 1984. The population was estimated between 27 and 46 animals during annual counts occurring from 2002 to 2012 (WDFW 2012). The caribou recovery area is 1,477 square miles in size and comprised of lands managed by the Colville National Forest, Idaho Panhandle National Forest, Idaho Department of Lands, and British Columbia. About 47 percent of the recovery area is in the United States, and 53 percent in British Columbia. The caribou recovery area is divided into 17 caribou management units, 4 of which occur on the Colville National Forest.

In the mid-1990s, an interagency effort was started to augment caribou populations in the Selkirk Mountains of Washington in order to advance recovery efforts (Almack 1998). A caribou management area identified in the existing Forest Plan (completed in 1988) has been used to guide management. However, new science has identified winter recreational activities as an important issue to address in relation to caribou recovery (Mitchell and Hamilton 2007); this was not addressed in the existing land management plan. In 2001, the USFWS issued a new Biological Opinion on the 1988 forest plan with terms and conditions that required a winter recreation strategy be completed that balanced the needs of secure winter habitat for caribou with access for winter recreation activities (USFWS 2001). Thus, a recreation strategy was developed in 2003 (USFS 2003). In 2012, the USFWS designated 30,000 acres of national forest lands at or above 5,000 feet as critical habitat for woodland caribou (USFWS 2012).

Early winter caribou habitat consists of low- to mid-elevation, cedar / hemlock forest stands and stands on the ecotone with subalpine fir / spruce habitats (Rominger and Oldemeyer 1989). Mature and old stand conditions and good canopy closure (70 percent+) are important habitat components (Rominger 1995). There is less risk of caribou being disturbed by winter recreation activities on early-winter range. On the Sullivan Lake Ranger District, most off-road travel in these areas is precluded by the heavily wooded nature of the preferred forest stand types. The potential for disturbance to caribou exists mainly where roads bisect these stands.

Subalpine and alpine ridges provide late winter habitat for woodland caribou (Rominger et al. 1996). Snowmobile riders are attracted to these areas for the challenging slopes and the views that they often provide. Simpson and Terry (2000) characterized snowmobile riding as posing moderate to high risks to

12539 caribou in the South Selkirk Mountains Ecosystem. A primary concern related to this activity is animals  
12540 being displaced from preferred late-winter habitat (Mitchell and Hamilton 2007).

### 12541 Grizzly Bear

12542 The Selkirk Grizzly Bear Recovery Area is located in northeastern Washington and includes parts of  
12543 Washington, Idaho, and British Columbia. The Selkirk Recovery Area was included in the original overall  
12544 grizzly bear recovery plan for the United States. One of the key aspects of grizzly bear recovery is human  
12545 access management. Access management remains one of the most influential tools used to contribute  
12546 toward the recovery of grizzly bear populations (IGBC 1998). Measures of the degree of human influence  
12547 on grizzly bear habitat are based on methods developed by the Interagency Grizzly Bear Committee  
12548 Access Management Task Force (IGBC 1998). Based on this approach, areas with relatively limited  
12549 human access are referred to as core areas and are tracked in grizzly bear management units (GBMUs)  
12550 that have been identified throughout the recovery area. Table 150 shows the current amount of core area  
12551 in the GBMUs within the Forest Plan Revision area.

12552 The Selkirk Recovery Area has been stratified into management situation 1, 2, and 3 areas that are used to  
12553 determine where management direction is applied. Areas outside of the recovery area but still on the  
12554 Colville National Forest are managed as management situation 5.

12555 **Table 150. Current percentage of core areas within grizzly bear management units in the Selkirk Recovery**  
12556 **Area**

Grizzly Bear Management Unit (GBMU)	Current Core Percentage
Le Clerc	>27%
Salmo-Priest	>64%
Sullivan-Hughes	>61%

### 12557 Canada Lynx

12558 Lynx are considered a species of greatest conservation need in the state of Washington. Lynx occurrence,  
12559 currently and historically, has been documented in the northeastern corner of the state (McKelvey et al.  
12560 2000). Stinson (2001) stated that the highest lynx harvest in Washington was from Ferry County (Kettle-  
12561 Wedge Core Area) at 35 percent. Lynx were present and reproducing in the Kettle Mountains through the  
12562 1970s (Stinson 2001), but subsequently were likely over-trapped. Currently, only occasional tracks are  
12563 observed with no evidence of reproduction in northeastern Washington (Koehler et al. 2008, WDFW and  
12564 USFS 2011, report on file with Colville National Forest).

12565 The Canada lynx is associated with moderate and high-elevation forests composed mostly of subalpine-fir  
12566 forest associations (Ruediger et al. 2000, Stinson 2001, ILBT 2013).

12567 In 2000, the Canada lynx was listed as a threatened species, and in 2005 core, secondary, and periphery  
12568 areas were identified to emphasize their importance for the recovery of lynx (USFWS 2005). To date, no  
12569 recovery plan for Canada lynx has been completed. Current management direction is provided through  
12570 the Canada Lynx Interagency Agreement that relies on the science summarized in the Canada Lynx  
12571 Conservation Assessment and Strategy (ILBT 2013). This agreement was intended to remain until it is  
12572 replaced by management direction given in revised forest plans. There is a need to revise the forest plan  
12573 to incorporate the emphasis areas identified by U.S. Fish and Wildlife Service (USFWS 2005) and to  
12574 replace the interim policy given in the interagency agreement. On the Colville National Forest, the Kettle-  
12575 Wedge area is identified as a Core Area for lynx, the Selkirk Mountains as Secondary Area, and the  
12576 Okanogan Highlands (west of the Kettle Mountains) as Peripheral Area (USFWS 2005, ILBT 2013). No  
12577 critical habitat was identified for Canada lynx on the Colville National Forest (USFWS 2009).

## Surrogate Wildlife Species

Considerable new science has developed since the current forest plan concerning the viability of a wide array of wildlife species that are present within the planning area (Lehmkuhl et al. 1997, Wisdom et al. 2000, Raphael et al. 2001). In addition, methods for assessing species' viability have evolved (Soule 1987, Marcot et al. 2001, Beissinger and McCullough 2002, Suring et al. 2011), and choosing which species to assess that best represent other species has changed considerably. We used the surrogate species approach to evaluate species and ecosystem viability following direction and guidance provided by Region 6 Planning (USFS 2006). Surrogate species are intended to represent ecological conditions that generate sustainable ecosystems, and it is not expected that the population dynamics of a surrogate species would necessarily represent the population dynamics of another species (Lambeck 1997). The concept of surrogate species differs from management indicator species (MIS) described in the regulations written to implement the National Forest Management Act (NFMA) (36 CFR 219.19). The use of management indicator species (MIS) was considered a means of evaluating the effects of management actions on a suite of species whose population trends were assumed to reflect changes in habitat amount and quality due to the effects of the management actions (Suring et al. 2011). This assumption and the MIS concept have been called into question in the past two decades since its inception (Landres et al. 1988, Andelman et al. 2001). As a result, the MIS concept evolved to the more robust concept of surrogate species, including surrogate species, in the late 1990s (Lambeck 1997). Surrogate species are now considered a more appropriate approach in addressing species and ecosystem viability (Wiens et al. 2008, Suring et al. 2011).

The approach used to evaluate the ecological conditions capable of sustaining viable populations of wildlife species within the Forest planning area is described in detail in Suring et al. (2011) and Gaines et al. (2015). In summary, an eight-step process was used to assess the ecological conditions capable of sustaining viable populations of terrestrial wildlife species. The process included: (1) identification of species of conservation concern, (2) description of source habitats, and other important ecological factors, (3) organizing species into groups, (4) selection of surrogate species for each group, (5) development of surrogate species assessment models, (6) application of the surrogate species assessment models to evaluate current and historical conditions, (7) development of conservation strategies, and (8) designing monitoring and adaptive management. Following the application of species screening criteria, 209 species were identified as species of conservation concern within the planning area. The 209 species of conservation concern were aggregated into 10 families (these are not phylogenetic families) and 28 groups based primarily on their habitat associations. Next, 26 surrogate species (77 percent birds, 15 percent mammals, 8 percent amphibians) were selected for use on the Colville National Forest, based on risk factors and ecological characteristics (Gaines et al. 2015, Suring et al. 2011).

Evaluation of the current conditions within the assessment area documented reductions in the viability outcomes for all surrogate species compared to historical conditions (Gaines et al. 2015). The species for which current viability outcomes are most similar to historical viability outcomes include the golden eagle, Harlequin duck, northern goshawk, peregrine falcon, and Wilson's snipe (table 151). Species for which current viability outcomes have departed the most from historical viability outcomes and are of greatest conservation concern included the eared grebe, fox sparrow, western bluebird, and white-headed woodpecker. Some of these species occur on only a small portion of the forest or within watersheds with only a minor amount of national forest land. Because our process was based on an all-lands approach, the viability of these species was assessed. However, conservation measures identified to improve their viability outcomes were not applicable to the forest planning process.

**Table 151. Current and historical viability outcomes for surrogate wildlife species assessed on the Colville National Forest**

Surrogate Wildlife Species	Current Viability Outcome	Historical Viability Outcome
American marten	B/C	A/B
Bald eagle	C	A
Bighorn sheep	B/C	A/B
Black-backed woodpecker	C	A
Canada lynx	B	A
Cassin's finch	D	A
Columbia spotted frog	C	A
Eared grebe <sup>1</sup>	E	C/D
Fox sparrow	E	A
Golden eagle	A/B	A
Harlequin duck	A/B	A
Lark sparrow <sup>1</sup>	C/D	A
Lewis's woodpecker	C/D	A
MacGillivray's warbler	C	A
Marsh wren	C	A/B
Northern goshawk	A/B	A
Northern harrier <sup>1</sup>	C	A
Peregrine falcon <sup>1</sup>	A/B	A
Pileated woodpecker	C	A
Sage thrasher <sup>1</sup>	D/E	A
Tiger salamander <sup>1</sup>	C	A
Western bluebird	D	A
White-headed woodpecker	D/E	A
Wilson's snipe <sup>1</sup>	B	A/B
Wolverine	B	A
Wood duck <sup>1</sup>	C	A

1/ Surrogate species whose source habitats either do not occur or less than 25 percent occur on the Colville National Forest.

There is a need to address the viability concerns for surrogate species identified in the assessment of the current conditions (Gaines et al. 2015). By addressing the habitat needs and risk factors identified for surrogate species through the assessment, ecological conditions capable of supporting viable populations of all native and non-native desirable wildlife species, including R6 Sensitive Species, would be enhanced. Some key findings of the assessment that should be addressed in the revised Forest Plan include:

- a. Riparian habitats are important for a wide variety of the surrogate species assessed. A strategy that protects and restores riparian habitat, including addressing the negative effects of roads, is needed.
- b. Late-successional and old forest habitats are generally below their historical range of variability. In some forest types, such as the dry and mesic forests, active restoration of old-forest habitat is needed to restore important habitat structures (e.g., large trees) and to reduce risk of habitat loss due to uncharacteristically severe wildfires.

- c. One of the primary reasons for species viability outcomes being reduced is the widespread influence of roads. Restoring habitat effectiveness, by reducing the negative effects of roads, is important for several surrogate wildlife species.
- d. Restoring the connectivity of wildlife habitats is an important strategy for addressing the effects of climate change on wildlife populations. Restoring habitat connectivity, especially within riparian habitats, is important and needs to address the negative effects of roads.
- e. The availability of large and old trees and large snag habitat is generally lacking in many forest types because of past management practices and altered disturbance regimes. Restoration of these key habitat components is important for several surrogate wildlife species.

**Table 152. Relationship between Region 6 Sensitive Species<sup>1</sup> and Region 6 Surrogate Species<sup>2</sup> used in the Colville National Forest Wildlife Evaluation Report**

Sensitive Species	Status on Forest <sup>3</sup>	Habitat Group	Surrogate Species
Northern Goshawk	D	Medium-large trees/all forest communities	Northern Goshawk
Peregrine Falcon	D	Habitat generalist/Cliff	Peregrine Falcon
Common Loon	D	Wetland/Marsh/Open water	Eared Grebe
Sandhill Crane	D	Wetland/Marsh/Wet Meadow	Wilson's Snipe
Bald Eagle	D	Riparian/large tree	Bald Eagle
Harlequin Duck	D	Riparian/large tree	Harlequin Duck
Lewis's Woodpecker	S	Open forest/post-fire	Lewis's Woodpecker, Three-toed Woodpecker
Whiteheaded Woodpecker	D	Medium-large trees/dry forest	Whiteheaded Woodpecker
Great Gray Owl	D	Forest Mosaic/all Forest Communities	Northern Goshawk
Northern Leopard Frog	S	Riparian/Pond/Small Lake/Backwater	Columbia Spotted Frog
Gray Wolf	D	Habitat Generalist	Wolverine, Grizzly Bear
Wolverine	D	Habitat Generalist	Wolverine, Grizzly Bear
Townsend's Bigeared Bat	D	Chambers/caves	Townsend's Bigeared Bat
Little Brown Myotis	D	Open Forest/Woodland/Grass/Shrub/Caves	Fringed Myotis, Pallid Bat, Townsend's Bigeared Bat
Bighorn Sheep	D	Woodland/Grass/Shrub	Bighorn Sheep
Pacific Fisher	D	Medium-large trees/cool-moist forest or all forest communities	Pileated Woodpecker, American Marten, Northern Goshawk, Woodland Caribou
Pygmy Shrew	D	Boreal Forest	Canada Lynx, Northern Bog Lemming

1/ R6 Sensitive Species List as of 15 July 2015 (USFS 2015)

2/ R6 Surrogate Species (formerly Focal Species) for Species Viability Assessments (USFS 2010)

3/ D=documented, S=suspected to occur on Forest

## Other Species of Management Interest

### Deer and Elk Population Status and Herds

The Selkirk Elk Herd occurs on the Colville National Forest and adjacent areas. This herd contributes significantly to local economies through wildlife viewing and recreational hunting opportunities. The Selkirk herd is currently about 1,200 animals (WDFW 2001). The Selkirk herd plan identified the desired condition for the herd as follows: increase the Pend Oreille subherd from 800 to 1,000 animals; stabilize and maintain the Hangman subherd; and reduce vehicle collisions.

Both white-tailed deer and mule deer occur on the Colville National Forest. The white-tailed deer management plan (WDFW 2010) identified two management units that include portions of the Forest: Okanogan Highlands and Selkirk. The Okanogan Highlands is 31 percent public land, 19 percent private, and 50 percent Colville tribal lands. The management objective for white-tailed deer in this area is to maintain the current population level. The Selkirk management unit is 37 percent public land, 6 percent Colville tribal lands, and 57 percent private lands. The objective in the unit is to reduce the effects of the antlerless harvest and increase the population. Currently, the mule deer population in northeastern Washington is below historical levels (WDFW 2008). A mule deer management plan for this area has not been completed.

Since the 1988 forest plan was completed, considerable research has been conducted on habitat relationships and the effects of human activities on deer and elk. For example, research has indicated that the availability of quality forage during non-winter periods is very important to the winter survival and productivity of elk herds (Cook 2002, Cook et al. 2004), more important than thermal cover (Cook 1998, Lenz 1997). Existing forest plans emphasized the availability of thermal cover on winter ranges, and in some cases, at levels difficult to ecologically sustain in dry forest environments. Additional science has underscored the importance of the effects of roads and other linear recreation routes on the effectiveness of habitat for deer and elk (Rowland et al. 2005, Wisdom et al. 2005). The current forest plan relies on the use of road density as an index of habitat effectiveness for deer and elk; however, recent research suggests that using the zone of influence is a better indicator (Gaines et al. 2003, Rowland et al. 2005). Forest Plan management direction for deer and elk needs to be revised to reflect the best available science.

Currently, the level of human influence on elk winter ranges is moderate (table 153). On deer winter ranges, 38 percent have a high level of human influence, 38 percent have a moderate level of human influence, and 24 percent have a low level of human influence.

**Table 153. Influence of roads and trails on elk winter range habitat effectiveness**

Elk Herd	Acres of Winter Range outside of zone of influence	Total Acres of Winter Range	Habitat Effectiveness Index	Current Level of Human Influence
Kettle	46,227	70,852	0.65	Moderate
Selkirk	31,300	55,459	0.56	Moderate

**Table 154. Influence of roads and trails on deer winter range habitat effectiveness**

Ranger District/watershed (HUC10)	Acres of winter range outside of zone of influence	Total acres of winter range	Habitat effectiveness index	Current level of human influence
<b>NEWPORT</b>				
Le Clerc Creek-Pend Oreille River	2,300	3,434	0.67	Mod
Tacoma Creek-Pend Oreille River	5,227	10,990	0.48	High
Upper Little Spokane River	273	273	1.00	Low
<b>REPUBLIC</b>				
Rock Creek-Kettle River	966	966	1.00	Low
Curlew Creek	2,262	4,400	0.51	Mod
Toroda Creek	704	704	1.00	Low
Upper Sanpoil River	11,683	16,616	0.70	Low
Vulcan Mountain-Kettle River	9,294	15,466	0.60	Mod
West Fork Sanpoil River	3,313	3,791	0.87	Low
<b>SULLIVAN LAKE</b>				
Le Clerc Creek-Pend Oreille River	6,168	10,020	0.62	Mod
Sullivan Creek-Pend Oreille River	4,889	9,969	0.49	High
<b>THREE RIVERS</b>				
Boulder Creek-Kettle River	8,975	16,011	0.56	Mod
Chewelah Creek-Colville River	6,482	10,780	0.60	Mod
Deep Creek	1,925	4,073	0.47	High
Mill Creek	1,072	2,229	0.48	High
Onion Creek-Roosevelt Lake	2,522	3,264	0.77	Low

## Climate Change and Wildlife

The anticipated climatic changes to eastern Washington environments are likely to result in a variety of effects to wildlife populations and their habitats (Gaines et al. 2012, Lawler et al. 2014). A striking conclusion reached from several climate change studies is the degree of change to wildlife habitats and populations that has already occurred (Lawler and Mathias 2007, Root et al. 2003). There are a variety of responses of wildlife to changing climatic conditions that have occurred or are anticipated to occur including: changes in species distributions, changes in the timing of breeding and other activities, changes in pathogens and invasive species distributions, changes in survival and extinction risks, and changes in the interactions among species. To aid in the assessment of the effects of climate change and forest management activities on surrogate wildlife species the Climate Change Sensitivity Database (CCSD 2013) was used to determine the vulnerability of each species and the particular effects that climate change might have given their life history. Of the species that were assessed in the database, nine (36 percent) have a high rating, six (24 percent) have a medium rating, five (20 percent) have a low vulnerability rating, and five (20 percent) were not rated (see following table).

12699  
12700**Table 155. Climate change vulnerability ratings for wildlife species assessed in the Colville National Forest plan revision**

Wildlife Species	Vulnerability Rating	Specific Climate Impacts
<b>Threatened and Endangered</b>		
Woodland Caribou	High	Climate change will alter the distribution and abundance of caribou habitat, and may change predator/prey dynamics. Population is small and highly vulnerable.
Grizzly bear	Low	Changes in snowpack will change hibernation exposing bears to humans for longer time.
Canada lynx	High	Changes to the distribution of key habitats and prey species
<b>Surrogate Wildlife</b>		
Northern Goshawk	High	Changes to food supply and suitable habitat
Pileated Woodpecker	Medium	Loss of habitat due to altered disturbance regimes
American Marten	High	Changes to habitat distribution and amount
White-headed Woodpecker	Medium	Changes to habitat from altered disturbance regimes
Black-backed Woodpecker	Medium	Changes to habitat from altered disturbance regimes
Lewis's Woodpecker	Medium	Changes to habitat from altered disturbance regimes
Wolverine	High	Changes in persistence of spring snow used for denning
MacGillivray's Warbler	Not Available	
Golden Eagle	Medium	Changes to prey and habitat from altered disturbance regimes
Bald Eagle	Low	Changes to fish populations
Columbia Spotted Frog	High	Changes to wetland and riparian habitats
Marsh Wren	Not Available	
Wilson's Snipe	Not Available	
Western Bluebird	High	Changes to habitat from altered disturbance regimes. Changes from competition with other cavity nesters
Peregrine Falcon	Low	Generalist with high mobility
Cassin's Finch	High	Changes to extreme temperatures and dry air
Fox Sparrow	Not Available	
Water Vole	Not Available	
<b>Species of Management Interest</b>		
Deer	Low	Habitat generalist with high mobility
Elk	Low	Habitat generalist with high mobility

12701



## Environmental Consequences of Alternatives–Wildlife

### Assumptions

In addition to the common assumptions listed in the Environmental Analysis and Overall Assumptions, the Wildlife analyses included the following.

- The use of the Surrogate Species approach (Lambeck 1997) is a credible and scientifically rigorous method to assess ecosystem conditions that contribute to the viability of surrogate wildlife species. The baseline conditions for Surrogate Wildlife Species in the Colville National Forest planning area are presented in Gaines et al. (2015) and give reasonable approximations of conditions at the scale of a watershed (10th Code HUC) that are influencing surrogate species habitats and populations.
- A key assumption of the landscape restoration approach that is represented in two of the alternatives (proposed action and P) is that by strategically locating restoration treatments, landscape fire movement can be altered, and the risk to adjacent late-successional and old forest habitat is reduced. A considerable and growing body of science is available to support this assumption (Finney 2001, Finney et al. 2006, Kennedy et al. 2008, Lehmkuhl et al. 2007).
- Modeling future habitat trends for a select group of surrogate wildlife species required several assumptions, most importantly, that habitat associations for each species were adequately represented by the identified model states, and that the effects of forest management treatments were adequately reflected in effects on habitat conditions.

### Methods of Analysis

#### *Federally Listed Wildlife Species*

For wildlife species that are federally protected by the Endangered Species Act, recovery plans and critical habitat designations (for those species that it has been designated) were used to identify factors that threaten species recovery. These factors were used to assess how well the no-action alternative and each of the action alternatives addressed the threats and contributed to the recovery of the species.

#### *Surrogate Wildlife Species*

The Region 6 surrogate species assessment process (USFS 2006) was used to evaluate the no- action and action alternatives. This approach is described in detail in Suring et al. (2011) and Gaines et al. (2015). The surrogate species assessment process was completed for the planning area in order to determine the baseline conditions for each of the surrogate species (see Affected Environment) and to identify risk factors that influence the viability of surrogate wildlife species. These risk factors were addressed to varying degrees in each of the alternatives and used to evaluate how well each alternative contributes to the viability of surrogate wildlife species.

### Spatial and Temporal Context for Effects Analysis

The spatial context for the analyses of the effects of management alternatives varied according to the species or group of species being assessed. For the woodland caribou and grizzly bear, the portion of the respective recovery areas located on the Forest was used to address direct and indirect effects, while the entire recovery area was used to evaluate cumulative effects. For Canada lynx, the direct and indirect effects were evaluated for the core and secondary areas identified in the recovery outline (USFWS 2005). Cumulative effects for Canada lynx were evaluated by considering the adjacent areas where lynx would most likely disperse from which included the Okanogan-Wenatchee National Forest and Washington Department of Natural Resources lands to the west and the Idaho-Panhandle National Forest to the east. The respective management plans were reviewed to consider the cumulative effects.

For wildlife species selected as Surrogate species, broad-scale viability assessments were done across the species' range that occurred in northeastern Washington assessment area (Suring et al. 2011, Gaines et al. 2015). This process included two spatial scales of assessment. Direct, indirect and cumulative effects were assessed for each individual species using the watershed (10th Code HUC) as an evaluation unit, considering all land ownerships within the watershed. Individual watershed results were then used to determine the current and historical (prior to European settlement) viability outcomes that were evaluated at the individual planning unit (in this case the Colville National Forest) level.

Future habitat trends were modeled for the following surrogate species: American marten, white-headed woodpecker, northern goshawk, pileated woodpecker, black-backed woodpecker, and Lewis's woodpecker. These trends were modeled to assess habitat conditions at 20, 50 and 100 years in order to estimate how different management alternatives would contribute to the viability of surrogate species. Other risk factors that influence the viability of surrogate species were assessed in the short term (less than 20 years) using the Objectives and the long term (less than 50 years) using the desired conditions to estimate how alternatives might contribute to the viability of surrogate wildlife species.

For species of management interest, which included deer and elk, direct and indirect effects were considered within the portions of the herd ranges that occurred on the Forest, while cumulative effects were considered across the entire herd range. Herd ranges were identified by the Washington Department of Fish and Wildlife in herd management plans (WDFW 2001, 2010).

### Key Indicators

The indicators shown in table 156 were used to evaluate the contribution of each alternative to the recovery of federally listed wildlife species, the viability of surrogate wildlife species, and the sustainability of species of management interest.

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**Table 156. Evaluation criteria and key indicators for wildlife**

Issue	Evaluation Criteria	Key Indicator
The recovery and viability of wildlife species associated with late and old forest structures.	<p>Wildlife species associated with late and old forest structures</p> <ul style="list-style-type: none"> <li>Moist Forests Listed species – woodland caribou Surrogate species – northern goshawk, pileated woodpecker, American marten</li> <li>Dry and Mesic Forests Surrogate species – pileated woodpecker, northern goshawk, white-headed woodpecker</li> </ul>	<p><i>The amount, location and spatial configuration of old-forest habitats</i> <i>The influence of roads and trails on old-forest habitat effectiveness</i></p>
The influence of motorized access on the recovery and viability of wildlife species sensitive to human disturbances	<p>Wildlife species that are sensitive to human disturbances that result from motorized access</p> <ul style="list-style-type: none"> <li>Non-Winter Listed species – grizzly bear Surrogate species – wolverine</li> <li>Winter Listed species – Canada lynx, woodland caribou Surrogate species – wolverine Other species – deer, elk</li> </ul>	<p><i>The influence of linear recreation routes and roads on wildlife species will be evaluated using road density as an indicator of habitat effectiveness for wolverine, Canada lynx; and the zone of influence as an indicator of habitat effectiveness for grizzly bear, deer, and elk (Gaines et al. 2003)</i></p>
The influence of livestock grazing of the viability or sustainability of wildlife species	<p>Surrogate wildlife species and species of management interest affected by grazing</p> <ul style="list-style-type: none"> <li>Surrogate species – MacGillivray's warbler, golden eagle, western bluebird, Cassin's finch</li> <li>Other species – deer and elk</li> </ul>	<p><i>Effects of grazing on the viability and habitat of surrogate and other wildlife species</i> The location and intensity of cattle grazing on allotments Degree of overlap between grazing allotments and source habitats for surrogate wildlife species and winter and summer ranges for deer and elk</p>
<p>The influence of forest management activities on habitat connectivity for surrogate wildlife species</p> <p>The influence of forest management activities on the viability of surrogate wildlife species dependent on snag habitats</p>	<p>Surrogate wildlife species used to evaluate habitat connectivity</p> <ul style="list-style-type: none"> <li>Surrogate species – American marten, Canada lynx, wolverine</li> </ul> <p>Surrogate wildlife species dependent on snag habitats</p> <ul style="list-style-type: none"> <li>Surrogate species – pileated woodpecker, white-headed woodpecker, black-backed woodpecker, Lewis's woodpecker, Western bluebird</li> </ul>	<p><i>Wildlife habitat connectivity</i> The dispersal habitat suitability (Singleton et al. 2002) for surrogate species based on anticipated changes to habitat, road density, and linear recreation routes <i>Availability of snag habitat</i> The proposed vegetation management activities within source habitats for each surrogate species The road density within source habitats for each surrogate species</p>
The influence of forest management on the viability of surrogate wildlife species associated with riparian habitats	<p>Surrogate wildlife species associated with riparian habitats</p> <p>Surrogate species – water vole, bald eagle, MacGillivray's warbler, Columbia spotted frog, Wilson's snipe, eared grebe, marsh wren</p>	<p><i>Widths of riparian management areas</i> <i>Vegetation management within riparian management areas</i> <i>Road density and zone of influence on riparian habitat effectiveness</i></p>

## **Summary of Effects—Wildlife**

Several factors were considered in the evaluation of how alternatives influenced the evaluation criteria and indicators, and how well each alternative contributes to the recovery of federally listed wildlife species, the viability of surrogate wildlife species, or the sustainability of species of management interest. These factors included: (1) How well the alternative addresses new science, especially the interactions between disturbance processes, habitat sustainability, and wildlife populations; (2) How well the alternative addresses new recovery plans, critical habitat, conservation strategies, or management plans (e.g., ILBT 2013, USFWS 2009); (3) How the alternative addresses the impacts of roads on wildlife habitats (e.g., Gaines et al. 2003, Wisdom et al. 2000); (4) How the alternative addresses the effects of domestic grazing on wildlife habitats; and (5) How the alternative addresses anticipated effects of climate change, and specifically, does the alternative restore landscape resistance and resiliency (Gaines et al. 2012, Lawler et al. 2014).

In general, the alternatives that emphasize restoration of disturbance regimes and habitats, including reducing road effects, contributed the most to the recovery, viability, and sustainability of wildlife habitats and populations (table 157). These alternatives include the proposed action and alternative P. Alternative R, which includes a substantial reserve system, would generate moderate to high contributions to wildlife habitats and populations, especially for wildlife species associated with late-successional and old forest habitat structures. The alternatives that emphasize single resource management (e.g., timber production) and do not address road effects tended to give the lowest contributions to wildlife habitats and populations.

**Table 157. Summary of the relative contribution of each alternative to the recovery of federally listed wildlife species, viability of surrogate wildlife species, or sustainability of species of management interest**

Issue/ Species	No Action	Proposed Action	Alt. R	Alt. P	Alt. B	Alt. O
<b>Old Forest</b>						
Contribution to recovery (Caribou)	Low <sup>1/</sup>	High <sup>2/</sup>	High <sup>3/</sup>	High	Moderate	Moderate
Contribution to viability	Low	Moderate	High	High	Low	Low
<b>Motorized Recreation and Road Access</b>						
Contribution to viability	Low	Moderate	High	High	Low	Low
<b>Livestock Grazing</b>						
Contribution to viability	Low	Moderate	High	High	Low	Moderate
<b>Habitat Connectivity</b>						
Contribution to viability	Low	Moderate	Moderate	High	Low	Low
<b>Snag Habitat</b>						
Contribution to viability	Low	Moderate	High	High	Low	Low
<b>Riparian and Aquatic</b>						
Contribution to viability	Low	Moderate	High	High	Low	Low
<b>Other Listed Species (Lynx)</b>						
Contribution to recovery	Low	High	Moderate	High	Low	Low
<b>Species of Management Interest</b>						
Contribution to sustainability	Low	Moderate	Moderate	High	Low	Low

<sup>1/</sup> Low = a low contribution by the alternative to the recovery/viability/sustainability of the species or group of species.

<sup>2/</sup> Moderate = a moderate contribution by the alternative to the recovery/viability/sustainability of the species or group of species.

<sup>3/</sup> High = a high contribution by the alternative to the recovery/viability/sustainability of the species or group of species.

## No-action Alternative

### Federally Listed Wildlife Species

#### Grizzly Bear

#### Direct and Indirect Effects

Forest activities that influence the recovery of the grizzly bear include: human access that can displace bears from important seasonal habitats or increase the risk of bear-human interactions, disposal of livestock carcasses within range allotments to avoid attracting bears to a potential food source, and the storage of food and garbage at recreation sites to reduce the potential for bears to associate humans with food resources.

Management of grizzly bears does not vary between alternatives. Existing management direction provides standards for human access, disposal of livestock carcasses, and food and garbage storage within the Selkirk Grizzly Bear Recovery Area (IGBC 1998, USDA 1988, USFWS 1993, USDI 2001). Existing standards have largely been met and would continue to be followed.

**Climate Change**

Grizzly bears have been identified as having a low sensitivity to climate change because they are opportunistic, eat a diverse array of food resources, and are highly adaptable (Servheen and Cross 2010, CCSD 2013). Anticipated impacts may include changes in the timing of denning due to longer snow-free periods and reduced snowpack (Lawler et al. 2014) and changes in the availability of food sources (Servheen and Cross 2010). These changes may put bears at risk of negative human interactions for a longer period of time each year (Servheen and Cross 2010). This would make education, proper food and garbage storage, carcass disposal measures, and human access management that much more important.

**Cumulative Effects**

The primary reason for the low population of grizzly bears in the recovery zone is past persecution and human-caused mortality of bears. Legal protections are now in place to protect grizzly bears. Information/education programs, sanitation measures, and access management have and would continue to be used to aid in the recovery of grizzly bears in the Selkirk Recovery Area.

Past, present, and reasonably foreseeable future actions that could affect grizzly bears include timber harvest and associated road construction, recreational activities that can cause disturbance to bears and create potential for human-bear conflicts, and human development that fragment grizzly bear habitat. Cumulative effects are evaluated across the Recovery Area by tracking activities within grizzly bear management units (GBMUs). Other land managers have adopted and are following similar management direction (IPNF 2015) and overall recovery is coordinated by the Selkirk Grizzly Bear Management Subcommittee. GBMUs that occur on the Colville National Forest include the LeClerc, Salmo-Priest, and Sullivan-Hughes. The contribution made on Federal lands to grizzly bear recovery would help to mitigate potential cumulative effects from off-forest activities.

Border Patrol activities on the Forest have the potential to cause disturbance through use of roads or trails that are normally closed to motorized use. The exact extent or amount of the impact over the life of the plan is difficult to predict because many factors could influence Border Patrol activities.

Fuels reduction projects are possible on all land ownerships, in particular where they are near residences. These can be done in such a way that they restore wildlife habitat that has been affected by fire exclusion.

Recreation is likely to increase on all land ownerships due to increasing demands. This would increase human disturbance and result in NFS lands that have relatively low human disturbance (e.g., core areas) to become more important to wildlife such as grizzly bears.

Black bear hunting on both sides of the international border within the Selkirk Recovery Area has the potential to add cumulatively to the mortality of grizzly bears. Hunters that encounter grizzly bears may mistakenly identify the bear, kill the bear in self-defense, or opportunistically poach the bear. Human access management within the recovery area is key to reducing the risk of mortality to grizzly bears from black bear hunting.

On private lands, the presence of garbage, pet food, fruit trees, or other attractants may lure bears into conflict situations. Bears that become habituated or a nuisance may lead to the bear being killed.

**Summary**

This alternative would make a high contribution to the recovery of grizzly bears in the Selkirk Recovery Area and would result in a May Affect, Not Likely to Adversely Affect determination. This is based on the existing management direction, followed in all alternatives, that addresses:

- 1) Human access management,
- 2) Disposal of carcasses in range allotments that occur in the recovery area, and
- 3) Proper storage of food, garbage, and other attractants that may lead to human-bear interactions.

***Canada Lynx***

**Direct and Indirect Effects**

Forest management activities that influence the recovery and conservation of Canada lynx include: vegetation management that affect lynx habitat components, winter recreation that influences habitat connectivity and lynx habitat use, forest roads that can become sources of lynx mortality at high traffic volumes and speeds, and grazing effects to riparian areas that provide habitat for snowshoe hares, a primary food resource for lynx (ILBT 2013). The Interagency Lynx Biology Team (ILBT 2013) developed conservation measures for core and secondary areas (USFWS 2005) to address each of these forest management activities, and for planners to consult when revising forest plans. These were used to evaluate the potential contribution of forest management alternatives to the recovery of Canada lynx.

When the USFWS reviewed existing regulatory mechanisms to determine if listing Canada lynx as a federally protected species was warranted, they determined that existing forest plans gave inadequate protections (USFWS 2003). Several national forests within the range of the Canada lynx subsequently amended their forest plans using the original Lynx Conservation Assessment and Strategy (Ruediger et al. 2000) as a basis for current science. However, forest plans in Region 6 were not amended, thus existing management plans do not address recent science and conservation recommendations (ILBT 2013), recovery objectives (USFWS 2005), or critical habitat (USFWS 2009). No critical habitat for the Canada lynx was designated on the Colville National Forest (USFWS 2009), however, both core and secondary area were identified (USFWS 2005, ILBT 2013).

Vegetation management activities affect the distribution of lynx habitat components, can fragment habitats, and create sources of disturbance (ILBT 2013). As a result, risk factors were identified and conservation measure developed to address the risk factors (ILBT 2013). The conservation measures for vegetation management apply to lynx core areas and include use of the natural range of variability to mimic pattern and scale of natural disturbances and connectivity across the landscape, while considering the future climate change (ILBT 2013). A conservation measure focused on the restoration of disturbance regimes in dry forests that occur in close proximity to lynx habitat to reduce the risk of uncharacteristically severe and frequent fires reaching lynx habitat. No management direction occurs in the existing forest plan that addresses these conservation measures.

Winter recreation can influence how lynx use habitats (ILBT 2013). To minimize the potential of negative effects from winter recreation, the ILBT (2013) developed conservation measures to reduce effects. Conservation measures for winter recreation in lynx core areas included reducing effects on habitat connectivity and discouraging expansion of over-the-snow routes that may influence lynx habitat use (ILBT 2013). Existing management plans do not address effects of over-the-snow recreation on lynx habitat.

12891 The conservation measures for forest roads in lynx core areas include avoiding road reconstruction  
12892 or upgrades that occur in lynx habitat and would result in increased traffic speeds or volumes (ILBT  
12893 2013). These measures were developed to reduce the potential for mortality to lynx from vehicles.  
12894 There is no management direction in existing plans to address this conservation measure.

12895 The conservation measures for grazing in lynx core areas include management of riparian areas to  
12896 assure adequate habitat for snowshoe hares, the primary prey species for Canada lynx (ILBT 2013).  
12897 The existing forest management plan includes management direction for grazing in riparian areas to  
12898 mitigate effects to habitat for listed fish species, but does not include anything specific to Canada  
12899 lynx or snowshoe hares.

12900 The no-action alternative would provide limited management direction to address the direct and  
12901 indirect effects of forest management activities on the recovery of Canada lynx. The no-action  
12902 alternative would give less protection for Canada lynx than the R and P alternatives, and protection  
12903 that is similar to the B and O alternatives.

#### 12904 **Climate Change**

12905 The potential effects of climate change on Canada lynx identified by the Interagency Lynx Biology  
12906 Team (2013) included: (1) an upward shift in elevation or latitudinal distribution of lynx and prey,  
12907 (2) a decrease in the amount of habitat and population size from reduced snow persistence and  
12908 increased disturbance events (e.g., fires), (3) changes in demographic rates, such as survival and  
12909 reproduction, and (4) changes in predator-prey relationships.

12910 Climate change adaptations to address these effects include restoration of landscape-scale  
12911 disturbance regimes to better mimic natural patterns and processes (Spies et al. 2010, Gaines et al.  
12912 2012, Lawler et al. 2014), and maintaining or restoring habitat connectivity to allow Canada lynx to  
12913 adjust their ranges to changing conditions (Heller and Zavaleta 2009, ILBT 2013, Squires et al.  
12914 2013). There is limited management direction in the existing management plans to address these  
12915 climate change adaptations.

#### 12916 **Cumulative Effects**

12917 Past, present, and reasonably foreseeable actions that affect lynx habitat include timber harvest and  
12918 fuels reduction, recreation, human development, and grazing on private and public lands. In addition,  
12919 legal trapping of lynx, timber harvest, oil and gas development, mining and human access in British  
12920 Columbia have and would continue to affect Canada lynx habitat.

12921 Past vegetation management and large-scale fires on the Forest within lynx habitat has resulted in a  
12922 distribution and amount of successional stages (early, mid, late) that are outside the HRV. This  
12923 alternative does not emphasize landscape restoration that would restore lynx habitats toward the  
12924 HRV, providing conditions more similar to those under which lynx evolved. Thus, activities on the  
12925 Forest would not mitigate for off-forest vegetation management as would occur with the action  
12926 alternatives.

12927 Border Patrol activities on the Forest have the potential to cause disturbance through use of roads or  
12928 trails that are normally closed to motorized use. The exact extent or amount of the impact over the  
12929 life of the plan is difficult to predict because many factors could influence Border Patrol activities.

12930 Grazing has occurred and would continue to take place on off-forest lands potentially impacting  
12931 deciduous or riparian habitats for lynx prey species.



12932 Fuels reduction projects are possible on all land ownerships, in particular where they are near  
12933 residences. These can be done in such a way that they restore wildlife habitat that has been affected  
12934 by fire exclusion.

12935 Recreation is likely to increase on all land ownerships due to increasing demands. This would  
12936 increase human disturbance and result in NFS lands that have relatively low human disturbance to  
12937 become more important to wildlife.

12938 All Federal lands adjacent to the Forest within Canada lynx core and secondary areas would use the  
12939 Lynx Conservation Assessment and Strategy (LCAS) (ILBT 2013) as current science to guide  
12940 project-level consultation and land management planning. The North Cascades National Park  
12941 Complex recently revised their management plan to include the LCAS (NPS 2012). The Idaho  
12942 Panhandle National Forest land management plan was recently revised to address the conservation  
12943 measures identified in the LCAS (IPNF 2015). The conservation of lynx on WDNR lands is guided  
12944 by the Department of Natural Resources Lynx Habitat Management Plan (WDNR 1996, updated in  
12945 2002). The management plan for the Pend Oreille National Wildlife Refuge provides conservation  
12946 measures to contribute to the recovery and viability of Canada lynx (USFWS 2000). Collectively,  
12947 these management plans have addressed many of the conservation measures identified for Canada  
12948 lynx (ILBT 2013) and would help mitigate potential cumulative effects that may occur from off-  
12949 forest activities. In addition, no critical habitat was identified on the Colville National Forest or on  
12950 adjacent lands (USFWS 2009).

12951 In Canada, timber harvesting, oil and gas development, coal mining, and the proliferation of human  
12952 access associated with these industries, have and would continue to affect lynx habitat. Legal  
12953 trapping occurs north of the Forest in Canada and could reduce the potential for lynx to disperse into  
12954 the lynx habitat on the Forest. Trapping is not legal in Idaho, Montana, or Washington.

#### 12955 **Summary**

12956 The no-action alternative would make a low contribution to the recovery of the Canada lynx in the  
12957 short (less than 20 years) and long (less than 50 years) term, and result in a May Effect, Likely to  
12958 Adversely Affect determination. This is because of the following:

- 12959 1) Existing management plans do not address the best available science and conservation measures  
12960 identified in the recent version of the Lynx Conservation Assessment and Strategy (ILBT 2013),  
12961 and the USFWS Recovery Outline (USFWS 2005);
- 12962 2) Existing management plans do not address recommended climate change adaptations; and
- 12963 3) Existing management plans were found to give inadequate regulatory mechanisms to prevent  
12964 listing lynx as a federally threatened species (USFWS 2003).

#### 12965 **Late-successional and Old Forest Habitats (Federally Listed Wildlife Species)**

##### 12966 *Woodland Caribou*

#### 12967 **Direct and Indirect Effects**

12968 The forest management activities that can influence the recovery and viability of woodland caribou  
12969 include: (1) Vegetation management and natural disturbances affect the amount and connectivity of  
12970 old growth forests of Engelmann spruce/subalpine fir and western redcedar/western hemlock.  
12971 (2) Human access that can increase the potential for poaching and cause disturbance to caribou  
12972 during the critical winter period. These effects were used to evaluate the potential contribution of  
12973 each alternative to the recovery of woodland caribou.

12974 This alternative would not implement new science, recommendations from the Biological Opinion  
12975 issued in 2001 (USFWS 2001) on the 1988 forest plan (USFS 1988), or address the critical habitat  
12976 designation (USFWS 2012). Vegetation management is currently guided by the management  
12977 direction given in the land management allocation for caribou. The existing Forest Plan attempted to  
12978 strike a balance between retaining old growth and providing for timber production. Timber harvest  
12979 has been cited as one of the primary factors that has reduced and fragmented old growth habitats for  
12980 woodland caribou (USFWS 1994, USFWS 2012).

12981 A term and condition of the 2001 Biological Opinion was that the Forest develop a winter recreation  
12982 strategy that protects important winter habitats for caribou while providing some level of winter  
12983 recreation access. This strategy was developed (USFS 2003) but would not be formally adopted until  
12984 the forest plan is revised. This alternative does not emphasize reducing the negative effects of forest  
12985 roads on wildlife habitat (such as the proposed action, R, and P alternatives).

#### 12986 **Climate Change**

12987 Climate change would likely alter the distribution and abundance of suitable caribou habitat, and  
12988 would change snow depths and persistence, which affect seasonal movements of mountain caribou  
12989 (WDFW 2012). The potential effects of climate change depend on the interaction of seasonal  
12990 temperatures and snowfall patterns, and occurrence of wildfires, outbreaks of forest insects, and  
12991 diseases (Mountain Caribou Science Team 2005). Management adaptations to address the effects of  
12992 climate change include a focus on forest restoration and reducing non-climatic factors that affect  
12993 wildlife populations (e.g., restoring habitat effectiveness). This alternative would not implement  
12994 these adaptations.

#### 12995 **Cumulative Effects**

12996 The caribou recovery area is 1,477 square miles in size and includes the Colville National Forest,  
12997 Idaho Panhandle National Forest, Idaho Department of Lands, and British Columbia. About  
12998 47 percent of the recovery area is in the United States, and 53 percent in British Columbia. The Idaho  
12999 Panhandle National Forest recently revised their Forest Plan to address habitat and risk factors  
13000 identified in the caribou recovery plan and critical habitat (USFS 2015). The caribou recovery team  
13001 works cooperatively to address cumulative effects on woodland caribou.

13002 Past activities on the Forest have impacted caribou habitat. Over-the-snow motorized use may have  
13003 caused disturbance to caribou.

13004 Past vegetation management and disturbances on the Forest have resulted in the distribution and  
13005 arrangement of successional stages (early, mid, late) within caribou habitat that are outside the HRV.  
13006 Presently, more of the landscape is in med-successional and less in late-successional habitats  
13007 compared to HRV. This alternative would not manage habitats toward HRV, and would not be as  
13008 effective at mitigating for the cumulative effects of off-forest timber harvest.

13009 Border Patrol activities on the Forest have the potential to cause disturbance through use of roads or  
13010 trails that are normally closed to motorized use. The exact extent or amount of the impact over the  
13011 life of the plan is difficult to predict because many factors could influence Border Patrol activities.

13012 Fuels reduction projects are possible on all land ownerships, in particular where they are near  
13013 residences. These can be done in such a way that they restore wildlife habitat that has been affected  
13014 by fire exclusion.

13015 Recreation is likely to increase on all land ownerships due to increasing demands. This would  
13016 increase human disturbance and result in NFS lands that have relatively low human disturbance to  
13017 become more important to wildlife such as caribou.

13018 Big game hunting continues on both sides of the U.S./Canada border. Encounters with hunters may  
13019 result in caribou mortality as a result of mistaken identification. Legal harvest of caribou by Treaty  
13020 Indians does occur, but with few statistics on the number of animals taken it is difficult to evaluate  
13021 the influence of this on the caribou population. Fatal collisions with vehicles occur on open roads in  
13022 caribou habitat and are likely to continue. Predation by mountain lions, wolves and other predators  
13023 would continue, with the effect on the caribou population dependent on big game populations,  
13024 predator populations and a variety of other factors.

13025 One important factor is how the Canadian officials decide to manage this herd. In the British  
13026 Columbia portion of the recovery area, human activities that would continue to impact caribou  
13027 habitat include gas, powerline, and international border corridors, recreation activities, timber  
13028 harvest, and highways.

### 13029 **Summary**

13030 The implementation of this alternative would have a May Affect, Likely to Adversely Affect  
13031 determination for woodland caribou. It would make a low contribution to the recovery of woodland  
13032 caribou. The reasons for this determination are:

- 13033 1) This alternative would not address new science and risk factors identified in the recovery plan  
13034 and critical habitat.
- 13035 2) This alternative would not formally adopt the winter recreation strategy for caribou habitat that  
13036 was a Term and Condition of the 2001 Biological Opinion.
- 13037 3) This alternative does not focus on the protection and restoration of habitat, that would better  
13038 address expected climate change effects, cumulative effects, and enhance landscape resiliency.

### 13039 ***Surrogate Wildlife Species***

#### 13040 **Direct and Indirect Effects**

13041 Forest activities that directly influence the viability of late-successional and old forest (LSOF)  
13042 dependent surrogate species include: the loss of LSOF habitat from fire (Healy et al. 2008, Davis et  
13043 al. 2011), vegetation treatments (e.g., timber harvest, thinning, prescribed fire) that affect forest  
13044 structure (e.g., canopy closure, snags, downed wood) (Healy et al. 2008, Wisdom and Bate 2008,  
13045 Davis et al. 2011), management of roads that influence habitat effectiveness (Gaines et al. 2003), and  
13046 protection of riparian areas which are an important element of LSOF habitats for some species (e.g.,  
13047 bald eagles).

13048 The existing management direction for LSOF species is based on a system of small management  
13049 areas that retains LSOF habitat for specific management indicator species (e.g., American marten,  
13050 barred owl, pileated woodpecker). These areas range in size from 75 to 300 acres, are relatively  
13051 equally distributed, but have no way to provide for habitat connectivity between or among the small  
13052 islands of habitat. These small islands of habitat are also highly susceptible to disturbances such as  
13053 fire, insects, and tree diseases, with no redundancy or replacement habitat in the event they are lost.  
13054 This system was based on minimizing the effects of protection of LSOF habitat on the timber harvest  
13055 level. This system was deemed inadequate to provide for the viability of LSOF species and thus  
13056 Forest Plans were amended with the Eastside Screens (USFS 1995). The intent was for the Eastside  
13057 Screens to provide interim direction until the Forest Plan was revised.

The area in-between the small islands of LSOF habitat is managed primarily through even-aged timber production, with some protections for elements of LSOF habitat, such as snags and downed wood. However, the combination of roads and timber harvest generally results in these areas having snag habitat below levels that would maintain viable populations of snag-dependent wildlife species. Again, the management direction in the original Forest Plan was deemed inadequate, thus additional direction was adopted through the Eastside Screens (USFS 1995), with the intent that this would serve as interim direction until Forest Plan was revised. The Eastside Screens restrict the cutting of trees greater than 21 inches in diameter.

This alternative would not provide management direction that will reduce the negative effects of roads on wildlife habitats. Currently, there are about 4,000 miles of road, resulting in an overall road density on the roaded portion of the Forest of about 3 miles per square mile, which is considered a low level of habitat effectiveness for many surrogate species (Wisdom et al. 2000, Gaines et al. 2003).

Overall, the no-action alternative would provide management direction for LSOF habitat that is similar to the B and O alternatives, but would provide less habitat than the R and P alternatives. This alternative would not improve the viability outcomes in the short (less than 20 years) or long (less than 50 years) time periods (appendix B of the specialist report) for surrogate wildlife species that are dependent on LSOF habitats.

#### **Climate Change**

The sensitivity of LSOF associated surrogate wildlife species to the effects of climate change were identified as medium for pileated woodpecker, and high for northern goshawk and American marten (CCSD 2013). The primary effect of climate change is the loss of LSOF habitats due to altered disturbance regimes (CCSD 2013).

Since the mid-1980s, the size and intensity of large wildfires in the western United States have increased markedly (Westerling et al. 2006), due, in part, to a reduction in fuel moisture driven by increased temperature and lower snowpack. Increases in fire risk and severity have been also been driven, in part, by increased fuel loads because of fire suppression practices used over the last century (McKenzie et al. 2004). Predicted increases in spring and summer temperature identified in many climate change models would exacerbate the frequency and intensity of disturbances such as fire (McKenzie et al. 2004, Wotton and Flannigan 1993) and defoliation caused by forest insects (Littell et al. 2009). In the interior Columbia Basin, Littell et al. (2009) predicted that the area burned is likely to double or even triple by 2050. Climate-driven changes in fire regimes would likely be the dominant driver of changes to forests and LSOF habitats in the western United States over the next century (McKenzie et al. 2004).

A landscape restoration approach is not emphasized in this alternative. Landscape-scale restoration has been identified as an adaptive strategy to create landscapes more resilient to climate change (Spies et al. 2010, Gaines et al. 2012) and to maintain late-successional and old forest habitat structure (Lawler et al. 2014). The emphasis on restoration of resiliency would result in landscapes, including disturbance regimes, which are more resilient to climate change through the application of strategically located restoration treatments in priority locations (Noss et al. 2006, Spies et al. 2006, Gaines et al. 2010, Franklin and Johnson 2012). By strategically locating restoration treatments, landscape-scale fire behavior may be altered to be more similar to native disturbance regimes and the risk of loss of LSOF habitat to uncharacteristically severe fires may be reduced (Finney 2001, Finney et al. 2006, Ager et al. 2007, Lehmkuhl et al. 2007).

**Cumulative Effects**

The adjacent Federal land managers include the Okanogan-Wenatchee National Forest to the west, the Idaho Panhandle National Forest to the east, and the Pend Oreille National Wildlife Refuge to the southeast. The Idaho Panhandle National Forest and the Pend Oreille National Wildlife Refuge have management plans that reduce the negative effects of roads on wildlife habitats, and protect and restore LSOF habitats (USFWS 2000, USFS 2015). The Okanogan-Wenatchee National Forest is in the process of revising their Forest Plan and current plan provides limited management direction to reduce the effects of roads on wildlife habitat, and LSOF habitat protections in the original Forest Plan were found to be inadequate and were amended by the Eastside Screens (USFS 1995).

Past vegetation management and disturbances on the Forest have resulted in the distribution and arrangement of successional stages (early, mid, late) that are outside the HRV. Presently, more of the landscape is in mid-successional and less in late-successional, especially late-open, habitats compared to HRV. This alternative would manage habitats toward HRV, resulting in a distribution and amount of successional stages that better mimic conditions under which surrogate wildlife species evolved, and better mitigate for the cumulative effects of off-forest timber harvest.

Fuels reduction projects are possible on all land ownerships, in particular where they are near residences. These can be done in such a way that they restore wildlife habitat that has been affected by fire exclusion.

Border Patrol activities on the Forest have the potential to cause disturbance through use of roads or trails that are normally closed to motorized use. The exact extent or amount of the impact over the life of the plan is difficult to predict because many factors could influence Border Patrol activities. Recreation is likely to increase on all land ownerships due to increasing demands. This would increase human disturbance and result in NFS lands that have relatively low human disturbance to become more important to wildlife.

**Summary**

Implementation of this alternative would make a relatively low contribution to the viability of LSOF dependent surrogate wildlife species. This determination is based on the following:

- 1) The LSOF habitat provided by this alternative may not maintain viable populations of LSOF surrogate wildlife species
- 2) This alternative does not emphasize restoration of landscape resiliency to reduce the loss of LSOF habitats to uncharacteristically severe wildfires
- 3) The protection and conservation of key elements of LSOF habitat such as old trees, snags, and riparian areas is less than other alternatives and dated
- 4) The alternative would not result in the restoration of habitat effectiveness by reducing the negative effects of roads on LSOF habitats

**Motorized Recreation and Road Access**

*Surrogate Wildlife Species*

**Direct and Indirect Effects**

Motorized recreation and the use of forest roads influence the viability of surrogate wildlife species. These potential effects include displacement from key habitats, disturbance during critical periods, and the risk of mortality caused by collisions with vehicles (see Wisdom et al. 2000 and Gaines et al. 2003 for a complete list of road and trail associated factors that influence wildlife). The effects of

13144 motorized recreation and roads can occur during the non-winter period or during the winter period  
13145 when snowmobiling or ski-trail grooming occurs.

13146 Implementation of this alternative would have limited opportunity to reduce the negative effects of  
13147 roads on surrogate species habitats. The current management direction for roads is limited, scattered  
13148 through numerous document and amendments, and was largely intended to address big-game species  
13149 (e.g., road density is limited to 0.4 to less than 1.5 miles of open road/square mile on winter ranges).

13150 This alternative would not change the current level of winter or summer motorized trail use, thus  
13151 would not change the impacts to surrogate species habitat effectiveness. Overall, this alternative  
13152 would provide a level of habitat effectiveness for surrogate wildlife that is similar to alternative O,  
13153 and less than the proposed action, B, R, and P alternatives. The viability outcomes for surrogate  
13154 wildlife species would not be improved and would remain below the historical capability.

#### 13155 **Climate Change**

13156 The sensitivity of surrogate wildlife species used to assess the effects of roads and motorized  
13157 recreation is rated as moderate for bighorn sheep, and high for Harlequin duck, Canada lynx, and  
13158 wolverine (CCSD 2013). An important climate change adaptation that has been recommended for  
13159 wildlife is to reduce the negative effects of roads and motorized recreation on habitat (Gaines et al.  
13160 2012, Lawler et al. 2014). By reducing the negative effects of roads and motorized recreation,  
13161 habitats (especially riparian and wetland habitats) can become more resilient to the effects of climate  
13162 change, and habitat connectivity can be restored allowing wildlife to adjust their ranges as conditions  
13163 change. The management direction for roads provided in the no-action alternative would make very  
13164 limited improvement to habitat effectiveness for surrogate wildlife species.

#### 13165 **Cumulative Effects**

13166 The adjacent Federal land managers include the Okanogan-Wenatchee National Forest to the west,  
13167 the Idaho Panhandle National Forest to the east, and the Pend Oreille National Wildlife Refuge to the  
13168 southeast. The Idaho Panhandle National Forest and the Pend Oreille National Wildlife Refuge have  
13169 management plans that reduce the negative effects of roads on wildlife habitats and restore habitat  
13170 effectiveness (USFWS 2000, USFS 2015). The Okanogan-Wenatchee National Forest is in the  
13171 process of revising their Forest Plan and current plan provides limited management direction to  
13172 reduce the effects of roads on wildlife habitat, mostly focused on big-game species.

13173 The limited management direction in the existing Forest Plan to reduce the negative effects of roads  
13174 on wildlife and continued development of private lands (located mostly in north-south valley  
13175 bottoms that bisect the Forest) means that management of roads and motorized trails on Federal  
13176 lands is even more important to the viability of surrogate wildlife species.

13177 Border Patrol activities on the Forest have the potential to cause disturbance through use of roads or  
13178 trails that are normally closed to motorized use. The exact extent or amount of the impact over the  
13179 life of the plan is difficult to predict because many factors could influence Border Patrol activities.  
13180 Recreation is likely to increase on all land ownerships due to increasing demands. This would  
13181 increase human disturbance and result in NFS lands that have relatively low human disturbance to  
13182 become more important to wildlife.

**Summary**

The implementation of this alternative would make a relatively low contribution to the viability of surrogate wildlife species whose habitats are influenced by motorized access. This would occur because:

- 1) The alternative includes limited management direction to reduce the effects of roads on habitat effectiveness for surrogate wildlife species,
- 2) This alternative does not alter the current effects that summer and winter motorized trails have on habitat effectiveness for surrogate wildlife species,
- 3) This alternative does little to address the cumulative effects of human access and development on wildlife habitats.

**Livestock Grazing**

***Surrogate Wildlife Species***

**Direct and Indirect Effects**

Grazing can influence habitats of surrogate wildlife species by removing key habitat elements (e.g., dense shrubs for MacGillivray's warbler and fox sparrow), especially in riparian habitats, altering disturbance regimes that maintain habitat structure (e.g., frequent fires in dry forests and grasslands keep open canopy for western bluebird), and influence the availability of important prey items (e.g., squirrels for golden eagles). To address the potential effects on surrogate wildlife species, the management direction regarding grazing in riparian habitat and upland habitats for each alternative was assessed.

This alternative would continue with the existing interim direction (INFISH) for riparian habitats. Presently, some riparian habitats are in poor condition due to the effects of past and current grazing. The plan direction for this alternative would have little effect on altering the distribution of livestock that would allow riparian habitats to recover.

This alternative does not include ecologically based desired conditions for upland non-forest habitats (e.g., rangeland and alpine habitats) or standards to protect unique habitats. This alternative would not alter the number of livestock, the intensity of grazing, or the amount of area grazed. Presently, 73 percent of the Forest is in a livestock allotment and animal unit months (AUMs) average about 25,000 per year. The viability outcomes for surrogate wildlife species would not be improved and would remain below the historical capability.

**Climate Change**

Habitats that are particularly sensitive to the effects of climate change include riparian areas (including wetlands) and alpine areas (Lawler et al. 2014). A management adaptation to make these habitats more resilient to climate change is to reduce the effects of non-climatic stressors (e.g., roads, intense grazing, etc.) (Lawler et al. 2014). This alternative has limited management direction that would restore the resiliency of habitats that are sensitive to climate change.

**Cumulative Effects**

Grazing occurs on nearby private, state, tribal, and Federal lands. Where grazing is allowed on the adjacent Okanogan-Wenatchee National Forest and Idaho Panhandle National Forest, it is managed to accommodate other public land uses, such as contributing to the viability of surrogate wildlife species. On the adjacent Little Pend Oreille Wildlife Refuge, livestock grazing was reduced over time to allow restoration of riparian habitats and is currently only used to achieve specific wildlife

13225 habitat objectives (USFWS 2000). Grazing on non-Federal lands increases the need to provide for  
13226 wildlife habitats on Federal lands that contribute to the viability of surrogate wildlife species.

13227 This alternative does not include management direction for some key habitats that would better  
13228 account for the cumulative effects of grazing on wildlife habitats.

13229 **Summary**

13230 Implementation of this alternative would make a relatively low contribution to viability for surrogate  
13231 wildlife species that are influenced by domestic grazing. This determination is based on:

13232 1) This alternative has limited management direction for riparian habitat to reduce the negative  
13233 effects of grazing and improve riparian habitat condition, and

13234 2) This alternative would not change the number, grazing intensity or distribution of livestock.

13235 **Habitat Connectivity**

13236 *Surrogate Wildlife Species*

13237 **Direct and Indirect Effects**

13238 A number of forest management activities influence habitat connectivity for surrogate wildlife  
13239 species. These include the amount, patch sizes, and arrangement of suitable habitats; location; and  
13240 density of motorized travel routes, especially in relation to riparian and LSOF habitats. These are  
13241 addressed in the evaluation of how forest management alternatives would affect habitat connectivity  
13242 for surrogate wildlife species.

13243 Current management direction focuses on providing habitat connectivity for LSOF species through  
13244 the identification of connectivity corridors during project planning (as per Eastside Screens, USFS  
13245 1995). Additional provisions for low to moderate mobility LSOF species are provided in Riparian  
13246 Management Zones. No management direction addresses habitat connectivity for wildlife species  
13247 that are not associated with LSOF habitats (e.g., wide-ranging carnivores, Singleton et al. 2002).

13248 The implementation of this alternative would have limited opportunity to reduce the negative effects  
13249 of roads on habitat connectivity for surrogate wildlife species because current management direction  
13250 for roads is limited, scattered through numerous documents and amendments, and was largely  
13251 intended to address big-game species only. This alternative would not change the current level of  
13252 winter or summer motorized trail use, thus would not change the effects to surrogate species habitat  
13253 effectiveness. The viability outcomes for surrogate wildlife species would not be improved and  
13254 would remain below the historical capability.

13255 **Climate Change**

13256 Maintaining and restoring ecological connectivity is the most oft-cited climate adaptation strategy  
13257 for biodiversity conservation (Heller and Zavaleta 2009, Opham and Wascher 2004, Parmesan 2006,  
13258 Spies et al. 2010) and has been identified as an important adaptation strategy for wildlife in  
13259 northeastern Washington (Gaines et al. 2012). This is because species' range shifts have been the  
13260 primary biological response to past episodes of climatic change, yet widespread anthropogenic  
13261 barriers to movement would now challenge species' ability to respond (Price 2002, Thomas and  
13262 Lennon 1999, Wormworth and Mallon 2006).

13263 Current management plans provide direction to address habitat connectivity for some highly mobile  
13264 LSOF wildlife species. However, there is no management direction that addresses habitat



connectivity for wildlife species not associated with LSOF habitats (e.g., wide-ranging carnivores), nor do existing management plans address the effects of forest roads on habitat connectivity. Much has been learned about the effects of climate change on wildlife since the 1988 forest plan was developed and amended, and the existing plan does not adequately address recommended climate adaptations to maintain or restore habitat connectivity for a wide array of wildlife species.

### **Cumulative Effects**

Past, present, and reasonably foreseeable human developments and transportation infrastructure, along with land ownership patterns, create cumulative impacts that limit options to conserve or restore regional habitat connectivity. Regional habitat connectivity has been evaluated for a variety of wildlife species, including the surrogate wildlife species used to evaluate connectivity in this planning area (Singleton et al. 2002, WWHCWG 2010, Proctor et al. 2015). These assessments have shown the importance of the Colville National Forest in providing stepping-stone habitats between the Cascade Range and Selkirk Mountains (Singleton et al. 2002, WWHCWG 2010). Connectivity from the Cascade Range to the Kettle Range and the Selkirk Mountains is interrupted by transportation corridors and human developments that are associated with the Okanogan, Upper Columbia, and Pend Oreille river valleys (Singleton et al. 2002, WWHCWG 2010). Additionally, connectivity planning in southern British Columbia identified linkage areas that could greatly enhance wildlife movements between the Selkirk Mountains and Purcell Mountains (Apps et al. 2007, Proctor et al. 2015).

Reducing the direct and indirect effects of roads on wildlife habitats would contribute to the maintenance and restoration of habitat connectivity, including cumulative effects, but is not well addressed in the current management plan. Border Patrol activities on the Forest have the potential to cause disturbance through use of roads or trails that are normally closed to motorized use. The exact extent or amount of the impact over the life of the plan is difficult to predict because many factors could influence Border Patrol activities. Recreation is likely to increase on all land ownerships due to increasing demands. This would increase human disturbance and result in NFS lands that have relatively low human disturbance to become more important to wildlife.

### **Summary**

The existing management plans have limited direction that addresses habitat connectivity, and most is relevant to wildlife species associated with LSOF habitats. Thus, the implementation of the no-action alternative would provide a relatively low contribution to the viability of surrogate wildlife species used to assess habitat connectivity. The primary reasons for this conclusion include:

- 1) No management direction to address wildlife species that are not associated with LSOF habitats (e.g., wide-ranging carnivores)
- 2) Limited management direction that addresses the effects of roads and road network on habitat connectivity, despite this being a primary factor that influences wildlife movements

### **Snag Habitat**

#### ***Surrogate Wildlife Species***

### **Direct and Indirect Effects**

Some forest activities directly influence the availability of habitat for snag-dependent surrogate species. These include firewood cutting (Bate et al. 2007, Hollenbeck et al. 2013), hazard tree reduction that causes the loss of snag habitat along roads and at recreation sites (Bate et al. 2007,

13307 Hollenbeck et al. 2013, Wisdom et al. 2008), and removal of snags during timber harvest for safety  
13308 reasons (Wisdom et al. 2008).

13309 The existing Forest Plan management direction for snag habitat to address the potential loss of  
13310 habitat in timber sale operations was based on snag densities that more recent science has shown  
13311 would not provide for viable populations of snag dependent species. Thus, interim policy was  
13312 adopted to revise these numbers (Eastside Screens, USFS 1995). This alternative does not include a  
13313 diameter limit on the size of snags cut for firewood as in other alternatives.

13314 Existing management plans provide limited opportunity to reduce the negative effects of roads on  
13315 surrogate species habitats, such as the loss of snag habitat, because current management direction for  
13316 roads is limited, scattered through numerous documents and amendments (e.g., Roadless Rule, USFS  
13317 2000), and was largely intended to address big-game species only.

13318 Overall, this alternative would provide habitat protections for snag-dependent wildlife that are  
13319 similar to alternatives B and O, but less than the proposed action and alternatives R and P. The  
13320 viability outcomes for snag-dependent surrogate wildlife species would not be improved and remain  
13321 below the historical capability.

#### 13322 **Climate Change**

13323 Surrogate wildlife species associated with snag habitats include the pileated woodpecker, white-  
13324 headed woodpecker, black-backed woodpecker, and Lewis's woodpecker. These species have a  
13325 medium sensitivity rating to climate change, and the western bluebird as high sensitivity (CCSD  
13326 2013). The primary effect anticipated from climate change is the loss of habitat due to altered  
13327 disturbance regimes. Because this alternative does not focus on landscape-scale restoration, the  
13328 restoration of disturbance regimes would not be emphasized. Thus, habitat for snag-dependent  
13329 surrogate wildlife is likely to be lost at an accelerated rate due to increased disturbances associated  
13330 with climate change, loss of snag habitat from relatively intense timber harvest, and loss associated  
13331 with roads as snags are cut for firewood and to reduce hazard trees. The increase in fire associated  
13332 with climate change could create a short-term gain in snag habitat followed by a long-term reduction  
13333 (80 to 100 years, Harrod et al. 1998) as snags attrition occurs.

#### 13334 **Cumulative Effects**

13335 Past and current management on public and private lands have generally resulted in a reduction in  
13336 large (greater than 20 inches d.b.h.) snag habitat below HRV (Hessburg et al. 1999). The adjacent  
13337 Federal land managers include the Okanogan-Wenatchee National Forest to the west, the Idaho  
13338 Panhandle National Forest to the east, and the Pend Oreille National Wildlife Refuge to the  
13339 southeast. The Idaho Panhandle National Forest and the Pend Oreille National Wildlife Refuge have  
13340 management plans that reduce the negative effects of roads on wildlife habitats and more rigorous  
13341 snag requirements to contribute to the viability of snag-dependent wildlife (USFWS 2000, USFS  
13342 2015). The Okanogan-Wenatchee National Forest is in the process of revising their Forest Plan. The  
13343 current plan provides limited management direction to reduce the effects of roads on wildlife habitats  
13344 and current required snag densities make limited contribution to the viability of surrogate wildlife  
13345 species. The limited management direction for snag habitat on non-Federal lands adjacent to the  
13346 planning area places additional emphasis on providing for viability populations of snag-dependent  
13347 wildlife species on Federal lands. Fuels reduction projects are possible on all land ownerships, in  
13348 particular where they are near residences. These can be done in such a way that they restore wildlife  
13349 habitat that has been affected by fire exclusion, but treatments can lead to the loss of snag habitat for  
13350 safety reasons.

13351 **Summary**

13352 Implementation of this alternative would make a relatively low contribution to the viability of snag-  
13353 dependent surrogate wildlife species. This determination is based on:

- 13354 1) The negative effects of roads on the loss of snag habitat would not be addressed
- 13355 2) The snag densities that are required to be left following timber harvest do not address recent  
13356 science showing these number to be too low to maintain viable populations of snag-dependent  
13357 species
- 13358 3) There is no diameter limit on the size of snags that are cut for firewood

13359 **Riparian Habitats**

13360 *Surrogate Wildlife Species*

13361 **Direct and Indirect Effects**

13362 Forest activities that directly influence the quality and availability of habitat for riparian-dependent  
13363 surrogate species include management of roads, recreation sites, and vegetation treatments that occur  
13364 within riparian habitats.

13365 In the no-action alternative, management direction for watersheds and riparian habitats is not  
13366 consolidated into one consistent set of plan components (e.g., direction is in both the existing forest  
13367 plan and in the INFISH amendment). Standards and guidelines would limit management activities  
13368 allowed to occur within riparian habitats. This alternative includes smaller (compared to other  
13369 alternatives except B) riparian management area widths along intermittent streams, lakes, and ponds  
13370 in the areas covered by the INFISH forest plan amendment (USFS 1995).

13371 Implementation of this alternative would not reduce the effects of roads on riparian habitats. Overall,  
13372 this alternative would provide habitat protection for riparian associated wildlife that is similar to the  
13373 alternative B, but less than the proposed action, O, R, and P alternatives.

13374 Conditions that contribute to the viability of surrogate species would be maintained at levels below  
13375 the historical capability and viability outcomes would not be considerably improved.

13376 **Climate Change**

13377 Some of the riparian associated surrogate species are rated as high sensitivity to climate change  
13378 (CCSD 2013) and riparian habitats are considered vulnerable to the anticipated effects of climate  
13379 change (Lawler et al. 2014). The primary effect anticipated from climate change is the loss of habitat  
13380 and reduced connectivity of riparian habitats due to altered hydrologic regimes and disturbances  
13381 (fire) regimes (Lawler et al. 2014).

13382 The emphasis of this alternative is on timber management. Because this alternative does not focus on  
13383 landscape-scale restoration, the restoration of disturbances regimes would not be emphasized. Thus,  
13384 habitat for riparian-dependent surrogate wildlife is likely to be lost at an accelerated rate due to  
13385 increased disturbances associated with climate change and some loss of riparian habitat from timber  
13386 harvest. In addition, an important adaptation for climate change for riparian habitats is to restore their  
13387 resiliency by reducing the negative effects of roads (Lawler et al. 2014). However, this alternative  
13388 has limited management direction to reduce road effects on riparian habitats and does not emphasize  
13389 watershed restoration.

**Cumulative Effects**

The adjacent Federal land managers include the Okanogan-Wenatchee National Forest to the west, the Idaho Panhandle National Forest to the east, and the Pend Oreille National Wildlife Refuge to the southeast. Management plans for the Idaho Panhandle National Forest and the Pend Oreille National Wildlife Refuge reduce the negative effects of roads on wildlife habitats, and protect and restore riparian habitats (USFWS 2000, USFS 2015). The Okanogan-Wenatchee National Forest is in the process of revising their Forest Plan and current plan provides limited management direction to reduce the effects of roads on wildlife habitat, and riparian habitat protections in the original Forest Plan were found to be inadequate and were amended (INFISH, PACFISH-USFS 1995; ACS-USFS 1994).

On private lands, Washington State Forestry Practices Act provides some limited protections for riparian habitats. Management of priority watersheds emphasizes using an “all lands” approach to enhance coordination across landowners and may enhance conditions for riparian associated wildlife species. However, habitat protections for riparian habitats on Federal lands would help to mitigate for the limited protections and cumulative that occur on private lands.

**Summary**

Implementation of this alternative would make a relatively low contribution to the viability of riparian-dependent surrogate wildlife species. This determination is based on the following:

- 1) This alternative lacks effective and clear management direction to reduce the negative effects of roads on riparian habitat for surrogate wildlife species
- 2) More rigorous riparian management direction including standards, included in other alternatives (e.g., R), which better protects riparian habitats and would better address potential effects of climate change and cumulative effects
- 3) The viability outcomes for surrogate wildlife species dependent on riparian habitats would not be improved

**Species of Management Interest**

*Deer and Elk*

**Direct and Indirect Effects**

Forest management activities can influence deer and elk populations and habitat use. Vegetation management activities may affect the distribution and abundance of cover and forage. Adequate forage is particularly important during the summer and fall before the following birthing season when this can have a positive effect on the condition of pregnant females (Lenz 1997, Cook 1998, Cook 2002, Cook et al. 2004, Cook et al. 2005). The management of forest roads and trails can influence how deer and elk use habitats, and influence the interactions between deer and elk (Rowland et al. 2005, Wisdom et al. 2005a,b). Additionally, deer and elk can compete with domestic livestock for both food resources (Findholt et al. 2005) and space (Coe et al. 2001, Coe et al. 2005). Thus, the potential effects that vegetation management, road and trail management, and grazing management can have on deer and elk habitats and population are evaluated for each of the alternatives.

Under the no-action alternative, cover and forage for deer and elk on winter ranges emphasizes the retention of winter thermal cover. Considerable research has shown that the management of deer and elk winter habitat should be less focused on the retention of thermal cover and more focused on the availability of forage on summer and fall habitats (see Cook et al. 2005 for a review). This

alternative, like alternatives B and O, would not incorporate the current science about the role of winter thermal cover and summer forage in contributing to the sustainability of deer and elk populations.

This alternative would not alter the current habitat effectiveness for deer and winter ranges through road management. The Selkirk Elk Herd has a moderate level of habitat effectiveness (moderate level of human influence) on their winter ranges (see Gaines et al. 2003 for calculation of habitat effectiveness). Currently, in 38 percent of the watersheds, winter habitat for deer has a high habitat effectiveness index (low level of human influence), 38 percent of the winter habitat has a moderate level of habitat effectiveness (moderate level of human influence), and 24 percent has a low level of habitat effectiveness (high level of human influence). Current management direct for winter ranges is based on road density standards. Rowland et al. (2005) found road density to be a poor indicator of habitat use by deer and elk and recommended the use of the zone of influence instead. This is incorporated into the proposed action and alternatives R and P.

Under this alternative, no changes would occur to current grazing practices on national forest allotments. Degraded range conditions would be maintained or slowly be improved, likely having negative effects to deer and elk habitat use and populations (Coe et al. 2001, 2005; Findholt et al. 2005). More robust range management direction (e.g., ecologically based desired conditions in the other alternatives) would not be adopted.

#### **Climate Change**

Deer and elk have a low level of sensitivity to the effects of climate change due to their ability to tolerate a relatively wide range of climatic conditions, their high mobility, and as habitat generalists (CCSD 2013). However, alternatives that restore landscape pattern and functions while reducing the effects of roads on deer and elk summer and winter habitats would provide more resilience deer and elk populations. This alternative does not emphasize landscape-scale restoration and nor does it provide consistent and effective management direction for roads that would restore habitat effectiveness for deer and elk.

#### **Cumulative Effects**

The historical cattle and sheep grazing that occurred on portions of the Forest degraded range conditions (Wissmar et al. 1994, Bunting et al. 2002). These conditions, combined with current domestic (cattle) and wild ungulate grazing (primarily elk and deer), have resulted in the maintenance or slow recovery of poor range conditions in some areas (Wissmar et al. 1994, Bunting et al. 2002). In turn, these poor range conditions have had negative effects on some important unique habitats such as riparian areas and meadows. This alternative would not result in more rigorous grazing management direction that would help to address this situation.

Winter ranges for the deer and elk occur on Federal lands, adjacent wildlife management areas managed by the State, and private lands. Elk herd management plans (WDFW 2001) provide guidance for elk management on state lands and make recommendations for elk management on Forestlands. Management plans for deer include the White-tailed Deer Management Plan that provides direction to manage hunting to maintain deer populations (WDFW 2010). A statewide general management plan for mule deer has been developed, but does not provide herd-specific management objectives (WDFW 2008). Mule deer are widely distributed across the Forest. A considerable amount of historical winter range for deer and elk is now in private land ownership or under the waters of Lake Roosevelt (created by the Grand Coulee dam). The cumulative effects of the existing management plans (State and Federal lands) would provide for the conditions that

13477 contribute to sustainable populations of deer and elk, while considering the effects of private land  
13478 development.

### 13479 **Summary**

13480 Implementation of the no-action alternative would make a relatively low contribution to the  
13481 conditions that support sustainable populations of deer and elk. This is based on the following:

- 13482 1) This alternative would not address new science that recommends de-emphasizing the  
13483 importance of winter thermal cover and increasing the emphasis on summer and fall forage  
13484 quality and quantity.
- 13485 2) This alternative does not provide consistent and effective direction on the management of  
13486 roads to restore habitat effectiveness on deer and elk summer and winter ranges.
- 13487 3) This alternative would not include more rigorous management direction to improve the  
13488 conditions of key habitats, such as riparian areas and meadows that are in poor condition due  
13489 to the cumulative effects of past grazing practices, and current domestic and wild ungulate  
13490 grazing.

## 13491 **Proposed Action**

### 13492 **Federally Listed Wildlife Species**

#### 13493 *Grizzly Bear*

#### 13494 **Direct and Indirect Effects**

13495 Forest activities that influence the recovery of the grizzly bear include: human access that can  
13496 displace bears from important seasonal habitats or increase the risk of bear-human interactions,  
13497 disposal of livestock carcasses within range allotments to avoid attracting bears to a potential food  
13498 source, and the storage of food and garbage at recreation sites to reduce the potential for bears to  
13499 associate humans with food sources.

13500 Management of grizzly bears does not vary between alternatives. Existing management direction  
13501 provides standards for human access, disposal of livestock carcasses, and food and garbage storage  
13502 within the Selkirk Grizzly Bear Recovery Area (IGBC 1998, USDA 1988, USFWS 1993, USDI  
13503 2001). Existing standards have largely been met and would continue to be followed.

#### 13504 **Climate Change**

13505 Grizzly bears have been identified as having a low sensitivity to climate change because they are  
13506 opportunistic, eat a diverse array of food resources, and are highly adaptable (Servheen and Cross  
13507 2010, CCSD 2013). Anticipated impacts may include changes in the timing of denning due to longer  
13508 snow-free periods and reduced snowpack (Lawler et al. 2014) and changes in the availability of food  
13509 sources (Servheen and Cross 2010). These changes may put bears at risk of negative human  
13510 interactions for a longer period each year (Servheen and Cross 2010). This would make education,  
13511 proper food and garbage storage, carcass disposal measures, and human access management that  
13512 much more important.

#### 13513 **Cumulative Effects**

13514 The primary reason for the low population of grizzly bears in the recovery zone is past persecution  
13515 and human-caused mortality of bears. Legal protections are now in place to protect grizzly bears.  
13516 Information and education programs, sanitation measures, and access management have and would  
13517 continue to be used to aid in the recovery of grizzly bears in the Selkirk Recovery Area.

13518 Past, present, and reasonably foreseeable future actions that could affect grizzly bears include timber  
13519 harvest and associated road construction, recreational activities that can cause disturbance to bears  
13520 and create potential for human-bear conflicts, and human development that fragment grizzly bear  
13521 habitat. Cumulative effects are evaluated across the recovery area by tracking activities within  
13522 grizzly bear management units (GBMUs). Other land managers have adopted and are following  
13523 similar management direction (IPNF 2015) and overall recovery is coordinated by the Selkirk  
13524 Grizzly Bear Management Subcommittee. GBMUs that occur on the Colville National Forest include  
13525 the LeClerc, Salmo-Priest, and Sullivan-Hughes. The contribution made on Federal lands to grizzly  
13526 bear recovery would help to mitigate potential cumulative effects from off-forest activities.

13527 Border Patrol activities on the Forest have the potential to cause disturbance through use of roads or  
13528 trails that are normally closed to motorized use. The exact extent or amount of the impact over the  
13529 life of the plan is difficult to predict because many factors could influence Border Patrol activities.

13530 Fuels reduction projects are possible on all land ownerships, in particular where they are near  
13531 residences. These can be done in such a way that they restore wildlife habitat that has been affected  
13532 by fire exclusion.

13533 Recreation is likely to increase on all land ownerships due to increasing demands. This would  
13534 increase human disturbance and result in NFS lands that have relatively low human disturbance (e.g.,  
13535 core areas) becoming more important to wildlife such as grizzly bears.

13536 Black bear hunting on both sides of the international border within the Selkirk Recovery Area has the  
13537 potential to add cumulatively to the mortality of grizzly bears. Hunters that encounter grizzly bears  
13538 may mistakenly identify the bear, kill the bear in self-defense, or opportunistically poach the bear.  
13539 Human access management within the recovery area is key to reducing the risk of mortality to  
13540 grizzly bears from black bear hunting.

13541 On private lands, the presence of garbage, pet food, fruit trees, or other attractants may lure bears  
13542 into conflict situations. Bears that become habituated or a nuisance may lead to the bear being killed.

#### 13543 **Summary**

13544 This alternative would make a relatively high contribution to the recovery of grizzly bears in the  
13545 Selkirk Recovery Area and would result in a May Affect, Not Likely to Adversely Affect  
13546 determination. This is based on the existing management direction, followed in all alternatives, that  
13547 addresses:

- 13548 1) Human access management,  
13549 2) Disposal of carcasses in range allotments that occur in the recovery area, and  
13550 3) Proper storage of food, garbage, and other attractants that may lead to human-bear interactions.

#### 13551 *Canada Lynx*

##### 13552 **Direct and Indirect Effects**

13553 The forest management activities that influence the recovery and conservation of Canada lynx  
13554 include: vegetation management that affects lynx habitat components, winter recreation that  
13555 influences habitat connectivity and lynx habitat use, forest roads that can become sources of lynx  
13556 mortality at high traffic volumes and speeds, and grazing effects to riparian areas that provide habitat  
13557 for snowshoe hares, a primary food resource for lynx (ILBT 2013). The Interagency Lynx Biology  
13558 Team (ILBT 2013) developed conservation measures for core and secondary areas (USFWS 2005) to

address each of these forest management activities, and for planners to consult when revising forest plans. These were used to evaluate the potential contribution of forest management alternatives to the recovery of Canada lynx.

Vegetation management activities affect the distribution of lynx habitat components, can fragment habitats, and create sources of disturbance (ILBT 2013). As a result, risk factors were identified and conservation measure developed to address the risk factors (ILBT 2013). The conservation measures for vegetation management apply to lynx core areas and include the use of the natural range of variation to mimic the pattern and scale of natural disturbances and connectivity across the landscape, while considering future climate change (ILBT 2013). A conservation measure focused on the restoration of disturbance regimes in dry forests that occur in close proximity to lynx habitat to reduce the risk of uncharacteristically severe and frequent fires reaching lynx habitat. Finally, conservation measures also limit the amount of vegetation management and the rate of habitat change (e.g., acres treated per decade) within lynx analysis units. The implementation of this alternative includes management direction to manage habitat for Canada lynx toward desired conditions that are based on the natural range of variability. This means that habitats would be managed so that the amount of habitat, patch sizes, and spatial arrangement would mimic conditions under which lynx evolved (Hessburg et al. 1999, Agee 2000).

Winter recreation can influence how lynx use habitats (ILBT 2013). To minimize the potential of negative effects from winter recreation, the ILBT (2013) developed conservation measures to reduce effects. Conservation measures for winter recreation in lynx core areas included reducing effects on habitat connectivity and discouraging expansion of over-the-snow routes that may influence lynx habitat use (ILBT 2013). Management direction in this alternative is for no expansion of over-the-snow winter recreational activities in lynx habitat.

The conservation measures for forest roads in lynx core areas include avoiding road reconstruction or upgrades that occur in lynx habitat and would result in increased traffic speeds or volumes (ILBT 2013). These measures would reduce the potential for vehicular traffic to result in a source of mortality to lynx. This alternative includes management direction to limit road reconstruction and upgrades in lynx habitat that would increase traffic volume or speed.

The conservation measures for grazing in lynx core areas include management of riparian areas to assure adequate habitat for snowshoe hares, the primary prey species for Canada lynx (ILBT 2013).

The proposed action would provide management direction to address the direct and indirect effects of forest management activities on the recovery of Canada lynx. The proposed action alternative would provide more protections for Canada lynx than the no-action, B, and O alternatives, and similar to the R and P alternatives.

### **Climate Change**

The potential effects of climate change on Canada lynx identified by the Interagency Lynx Biology Team (2013) included: (1) An upward shift in elevation or latitudinal distribution of lynx and prey, (2) A decrease in the amount of habitat and population size from reduced snow persistence and increased disturbance events (e.g., fires), (3) Changes in demographic rates, such as survival and reproduction, and (4) Changes in predator-prey relationships.

Climate change adaptations to address these effects include restoration of landscape-scale disturbance regimes to better mimic natural patterns and processes (Spies et al. 2010, Gaines et al. 2012, Lawler et al. 2014), and maintaining or restoring habitat connectivity to allow Canada lynx to adjust their ranges to changing conditions (Heller and Zavaleta 2009, ILBT 2013, Squires et al.



13603 2013). There is management direction in this alternative to implement climate change adaptations  
13604 through the focus on whole-landscape restoration, and the restoration of conditions that would  
13605 enhance connectivity of habitats (see Habitat Connectivity sections).

13606 **Cumulative Effects**

13607 Past, present, and reasonably foreseeable actions that affect lynx habitat include timber harvest and  
13608 fuels reduction, recreation, human development, and grazing on private and public lands. In addition,  
13609 legal trapping of lynx, timber harvest, oil and gas development, mining and human access in British  
13610 Columbia have and would continue to affect Canada lynx habitat.

13611 Past vegetation management and large-scale fires on the Forest within lynx habitat has resulted in a  
13612 distribution and amount of successional stages (early, mid, late) that are outside the HRV. This  
13613 alternative would result in vegetation management activities that would restore lynx habitats toward  
13614 the HRV, providing conditions more similar to those under which lynx evolved.

13615 Border Patrol activities on the Forest have the potential to cause disturbance through use of roads or  
13616 trails that are normally closed to motorized use. The exact extent or amount of the impact over the  
13617 life of the plan is difficult to predict because many factors could influence Border Patrol activities.

13618 Grazing has occurred and would continue to take place on off-forest lands potentially impacting  
13619 deciduous or riparian habitats for lynx prey species.

13620 Fuels reduction projects are possible on all land ownerships, in particular where they are near  
13621 residences. These can be done in such a way that they restore wildlife habitat that has been affected  
13622 by fire exclusion.

13623 Recreation is likely to increase on all land ownerships due to increasing demands. This would  
13624 increase human disturbance and result in NFS lands that have relatively low human disturbance to  
13625 become more important to wildlife.

13626 All Federal lands within Canada lynx core and secondary areas would use the Lynx Conservation  
13627 Assessment and Strategy (LCAS) (ILBT 2013) as current science to guide project level consultation  
13628 and land management planning. The North Cascades National Park Complex recently revised their  
13629 management plan to include the LCAS (NPS 2012). The Idaho Panhandle National Forest land  
13630 management plan was recently revised to address the conservation measures identified in the LCAS  
13631 (USFS 2015). The conservation of lynx on WDNR lands is guided by the Department of Natural  
13632 Resources Lynx Habitat Management Plan (WDNR 1996, updated in 2002). The management plan  
13633 for the Pend Oreille National Wildlife Refuge provides conservation measures to contribute to the  
13634 recovery and viability of Canada lynx (USFWS 2000). Collectively, these management plans have  
13635 addressed many of the conservation measures identified for Canada lynx (ILBT 2013) and would  
13636 help mitigate potential cumulative effects that may occur from off-forest activities. In addition, no  
13637 critical habitat was identified on the Colville National Forest or on adjacent lands (USFWS 2009).

13638 In Canada, timber harvesting, oil and gas development, coal mining, and the proliferation of human  
13639 access associated with these industries, have and would continue to affect lynx habitat. Legal  
13640 trapping occurs north of the Forest in Canada and could reduce the potential for lynx to disperse into  
13641 the lynx habitat on the Forest. Trapping is not legal in Idaho, Montana, or Washington.

**Summary**

The proposed action alternative would make a relatively high contribution to the recovery of the Canada lynx in both the short (less than 20 years) and long (less than 50 years) term, and result in a May Effect, Not Likely to Adversely Affect determination. This is because of the following:

- 1) This alternative incorporates the best available science and conservation measures identified in the recent version of the Lynx Conservation Assessment and Strategy (ILBT 2013), and USFWS Recovery Outline (USFWS 2005).
- 2) This alternative would implement recommended climate change adaptations by focusing on the restoration of forest disturbance regimes and resiliency, and reducing the impacts of roads on habitat connectivity.
- 3) This alternative addresses previous findings that existing management plans provided inadequate regulatory mechanisms to prevent the listing of lynx as a federally threatened species (USFWS 2003).

**Late-successional and Old Forest Habitats (Federally Listed Wildlife Species)**

*Woodland Caribou*

**Direct and Indirect Effects**

The forest management activities that can influence the recovery and viability of woodland caribou include: (1) Vegetation management and natural disturbances affect the amount and connectivity of old growth forests of Engelmann spruce/subalpine fir and western redcedar/western hemlock. (2) Human access that can increase the potential for poaching and cause disturbance to caribou during the critical winter period. These effects were used to evaluate the potential contribution of each alternative to the recovery of woodland caribou.

This alternative would implement new science, recommendations from the Biological Opinion issued in 2001 (USFWS 2001) on the 1988 forest plan (USFS 1988), and address the critical habitat designation (USFWS 2012). Vegetation management would be focused on the restoration late-successional and old forest habitats based the natural and future range of variability. The desired conditions would be for the amount, spatial arrangement, and connectivity of caribou habitat to mimic natural patterns and processes.

A term and condition of the 2001 Biological Opinion was that the Forest develop a winter recreation strategy that protects important winter habitats for caribou while providing some level of winter recreation access. This strategy was developed (USFS 2003) and would be fully integrated into this alternative. The strategy includes information and education about the effects of winter recreation on wildlife, monitoring and enforcement of areas closed to over-the-snow activities, and limitations on permitted over-the-snow activities. Collectively, these actions have reduced the impacts of winter recreation to caribou habitat while providing recreation opportunities in areas and at the time of the winter season when effects to caribou are minimal. In addition to winter recreation, this alternative emphasizes reducing the negative effects of forest roads on wildlife habitat (though not to the degree in the R and P alternatives).

**Climate Change**

Climate change would likely alter the distribution and abundance of suitable caribou habitat, and would change snow depths and persistence, which affect seasonal movements of mountain caribou (WDFW 2012). The potential effects of climate change depend on the interaction of seasonal temperatures and snowfall patterns and occurrence of wildfires, outbreaks of forest insects, and

13685 diseases (Mountain Caribou Science Team 2005). Management adaptations to address the effects of  
13686 climate change include a focus on forest restoration and reducing non-climatic factors that affect  
13687 wildlife populations (e.g., reducing the negative impacts of roads and winter recreation). This  
13688 alternative would implement these adaptations.

13689 **Cumulative Effects**

13690 The caribou recovery area is 1,477 square miles in size and includes the Colville National Forest,  
13691 Idaho Panhandle National Forest, Idaho Department of Lands, and British Columbia. About  
13692 47 percent of the recovery area is in the United States and 53 percent in British Columbia. The Idaho  
13693 Panhandle National Forest recently revised its forest plan to address habitat and risk factors  
13694 identified in the caribou recovery plan and critical habitat (USFS 2015). The caribou recovery team  
13695 works cooperatively to address cumulative effects on woodland caribou.

13696 Past activities on the Forest have impacted caribou habitat. Over-the-snow motorized use, prior to  
13697 the implementation of the Winter Recreation Strategy (USFS 2003), may have caused disturbance to  
13698 caribou. The alternative would continue with implementation of the Winter Recreation Strategy,  
13699 limiting the cumulative effects on caribou.

13700 Past vegetation management and disturbances on the Forest have resulted in the distribution and  
13701 arrangement of successional stages (early, mid, late) that are outside the HRV. Presently, more of the  
13702 landscape is in med-successional and less in late-successional habitats compared to HRV. This  
13703 alternative would manage habitats toward HRV resulting in a distribution and amount of  
13704 successional stages that better mimic conditions under which caribou evolved, and better mitigate for  
13705 the cumulative effects of off-forest timber harvest.

13706 Border Patrol activities on the Forest have the potential to cause disturbance through use of roads or  
13707 trails that are normally closed to motorized use. The exact extent or amount of the impact over the  
13708 life of the plan is difficult to predict because many factors could influence Border Patrol activities.

13709 Fuels reduction projects are possible on all land ownerships, in particular where they are near  
13710 residences. These projects can be done in such a way that they restore wildlife habitat that has been  
13711 affected by fire exclusion.

13712 Recreation is likely to increase on all land ownerships due to increasing demands. This would  
13713 increase human disturbance and result in NFS lands that have relatively low human disturbance to  
13714 become more important to wildlife such as caribou.

13715 Big game hunting continues on both sides of the U.S./Canada border. Encounters with hunters may  
13716 result in caribou mortality as a result of mistaken identification. Legal harvest of caribou by Treaty  
13717 Indians does occur, but with few statistics on the number of animals taken, it is difficult to evaluate  
13718 the influence of this on the caribou population. Fatal collisions with vehicles occur on open roads in  
13719 caribou habitat and are likely to continue. Predation by mountain lions, wolves and other predators  
13720 would continue, with the effect on the caribou population dependent on big game populations,  
13721 predator populations and a variety of other factors.

13722 One important factor is how the Canadian officials decide to manage this herd. In the British  
13723 Columbia portion of the recovery area, human activities that would continue to impact caribou  
13724 habitat include gas, powerline, and international border corridors, recreation activities, timber  
13725 harvest, and highways.

**Summary**

Implementation of this alternative would have a May Affect, not Likely to Adversely Affect determination for woodland caribou. It would make a relatively high contribution to the recovery of woodland caribou. The reasons for this determination are:

- 1) This alternative would address new science and risk factors identified in the recovery plan and critical habitat.
- 2) This alternative would formally adopt the winter recreation strategy for caribou habitat that was a Term and Condition of the 2001 Biological Opinion.
- 3) This alternative emphasizes the protection and restoration of caribou habitat, better addressing expected climate change effects and enhancing habitat resiliency.

***Surrogate Wildlife Species***

**Direct and Indirect Effects**

Forest activities that directly influence the viability of late-successional and old forest (LSOF) dependent surrogate species include: the loss of LSOF habitat from fire (Healy et al. 2008, Davis et al. 2011), vegetation treatments (e.g., timber harvest, thinning, prescribed fire) that affect forest structure (e.g., canopy closure, snags, downed wood)(Healy et al. 2008, Wisdom et al. 2008, Davis et al. 2011), management of roads that influence habitat effectiveness (Gaines et al. 2003), and protection of riparian areas which are an important element of LSOF habitats for some species (e.g., bald eagles).

The dynamic landscape restoration approach that is emphasized in this alternative would result in landscapes, including disturbance regimes, that are more resilient to climate change through the application of strategically located restoration treatments in priority locations (Noss et al. 2006, Spies et al. 2006, Gaines et al. 2010a, Franklin and Johnson 2012). By strategically locating restoration treatments, landscape-scale fire behavior can be altered to be more similar to native disturbance regimes and the risk of loss of LSOF habitat to uncharacteristically severe fires can be reduced (Finney 2001, Finney et al. 2006, Ager et al. 2007, Lehmkuhl et al. 2007). In addition, implementation of this alternative would include greater use of managed fire to achieve desired conditions for restoration and resiliency (Noss et al. 2006, Franklin and Johnson 2012).

For some LSOF surrogate species, such as the white-headed woodpecker, conservation assessments have recommended the use of stand-level treatments to restore habitat because current habitat levels are well below historic levels (Mellen-McLean et al. 2013, Gaines et al. 2015). The effects of restoration treatments on birds has been studied and shown that treatments that retain large trees and promote within-stand spatial variability can have positive effects on surrogate bird species, including the white-headed woodpecker (Gaines et al. 2007, Gaines et al. 2010b). The implementation of this alternative would result in approximately 5,000 acres per year of restorative treatments within dry and mesic forests, creating potentially favorable conditions for white-headed woodpeckers.

Implementation of this alternative includes plan components for several key elements of LSOF habitat. For instance, desired conditions for snag habitat address the potential loss of snags in vegetation management treatments. This alternative would also require that firewood cutting occur in designated areas only, and not allow removal of downed wood and snags greater than 20 inches d.b.h.. In addition, this alternative provides for the retention of large trees, which are currently below historical levels in most forested landscapes (Hessburg et al. 1999).

Implementation of this alternative would reduce the negative effects of roads on LSOF habitats within 10 watersheds in the short term (less than 20 years based on objectives) because roads would be closed (to meet other management objectives). In the longer term (less than 50 years based on desired conditions), this alternative would result in road densities of equal to or less than 2 miles per square mile on 23 percent of the Forest, and equal to or less than 3 miles per square mile on 48 percent of the Forest.

Overall, this alternative would provide greater protection for LSOF habitats than the no-action, B, and O alternatives; similar to alternative P; and less than alternative R. The viability outcome for surrogate wildlife species associated with LSOF habitats would be improved in both the short (less than 20 years) and long (less than 50 years) time periods as desired conditions are achieved.

### **Climate Change**

The sensitivity of LSOF associated surrogate wildlife species to the effects of climate change were identified as medium for pileated woodpecker, and high for northern goshawk and American marten (CCSD 2013). The primary effect of climate change is the loss of LSOF habitats due to altered disturbance regimes (CCSD 2013).

Since the mid-1980s, the size and intensity of large wildfires in the western United States have increased markedly (Westerling et al. 2006), due, in part, to a reduction in fuel moisture driven by increased temperature and lower snowpack. Increases in fire risk and severity have been also been driven, in part, by increased fuel loads because of fire suppression practices used over the last century (McKenzie et al. 2004). Predicted increases in spring and summer temperature identified in many climate change models would exacerbate the frequency and intensity of disturbances such as fire (McKenzie et al. 2004, Wotton and Flannigan 1993) and defoliation caused by forest insects (Littell et al. 2009). In the interior Columbia Basin, Littell et al. (2009) predicted that the area burned is likely to double or even triple by 2050. Climate-driven changes in fire regimes would likely be the dominant driver of changes to forests and LSOF habitats in the western United States over the next century (McKenzie et al. 2004).

The dynamic landscape restoration approach that is emphasized in this alternative represents the implementation of an adaptive strategy to create landscapes more resilient to climate change (Spies et al. 2010, Gaines et al. 2012). Landscape-scale restoration has been identified as an adaptive strategy to maintain late-successional and old forest habitat structure (Lawler et al. 2014). The emphasis on restoration of resiliency would result in landscapes, including disturbance regimes, which are more resilient to climate change through the application of restoration treatments in priority locations (Noss et al. 2006, Spies et al. 2006, Gaines et al. 2010, Franklin and Johnson 2012). By strategically locating restoration treatments, landscape-scale fire behavior can be altered to be more similar to native disturbance regimes and the risk of loss of LSOF habitat to uncharacteristically severe fires can be reduced (Finney 2001, Finney et al. 2006, Ager et al. 2007, Lehmkuhl et al. 2007). In addition, implementation of this alternative would include greater use of managed fire to achieve desired conditions for restoration and resiliency (Noss et al. 2006, Franklin and Johnson 2012).

### **Cumulative Effects**

Adjacent Federal land managers include the Okanogan-Wenatchee National Forest to the west, the Idaho Panhandle National Forest to the east, and the Pend Oreille National Wildlife Refuge to the southeast. The Idaho Panhandle National Forest and the Pend Oreille National Wildlife Refuge have management plans that reduce the negative effects of roads on wildlife habitats and to protect and restore LSOF habitats (USFWS 2000, USFS 2015). The Okanogan-Wenatchee National Forest is in

the process of revising their forest plan and the current plan provides limited management direction to reduce the effects of roads on wildlife habitat, and LSOF habitat protections in the original forest plan were found to be inadequate and were amended by the Eastside Screens (USFS 1995).

Past vegetation management and disturbances on the Forest have resulted in the distribution and arrangement of successional stages (early, mid, late) that are outside the HRV. Presently, more of the landscape is in mid-successional and less in late-successional, especially late-open, habitats compared to HRV. This alternative would manage habitats toward HRV resulting in a distribution and amount of successional stages that better mimic conditions under which surrogate wildlife species evolved, and better mitigate for the cumulative effects of off-forest timber harvest.

Fuels reduction projects are possible on all land ownerships, in particular where they are near residences. These can be done in such a way that they restore wildlife habitat that has been affected by fire exclusion.

Border Patrol activities on the Forest have the potential to cause disturbance through use of roads or trails that are normally closed to motorized use. The exact extent or amount of the impact over the life of the plan is difficult to predict because many factors could influence Border Patrol activities. Recreation is likely to increase on all land ownerships due to increasing demands. This would increase human disturbance and result in NFS lands that have relatively low human disturbance to become more important to wildlife.

### **Summary**

The implementation of this alternative would make a moderate contribution to the viability of LSOF dependent surrogate wildlife species. The contribution would be due to the following components of this alternative:

- 1) Emphasis on the dynamic landscape restoration to restore landscape resiliency and reduce the loss of LSOF habitats to uncharacteristically severe wildfires.
- 2) The protection and conservation of key elements of LSOF habitat such as large trees, large snags, and riparian habitats,
- 3) Emphasis on restoring habitat effectiveness by reducing the negative effects of roads on LSOF habitats (though not to the same degree as R and P).

## **Motorized Recreation and Road Access**

### ***Surrogate Wildlife Species***

#### **Direct and Indirect Effects**

Motorized recreation and the use of forest roads influence the viability of surrogate wildlife species (Wisdom et al. 2000, Gaines et al. 2003). These potential effects include displacement from key habitats, disturbance during critical periods, and the risk of mortality caused by collisions with vehicles (see Wisdom et al. 2000 and Gaines et al. 2003 for a complete list of road and trail associated factors that influence wildlife). The effects of motorized recreation and roads can occur during the non-winter period or during the winter period when snowmobiling or ski-trail grooming occurs.

Implementation of this alternative would reduce the effects of roads on surrogate species habitat effectiveness within 10 watersheds in the short term (less than 20 years based on Objectives). In the longer term (less than 50 years based on desired conditions) this alternative would result in road

densities of equal to or less than 2 miles per square mile on 23 percent of the Forest, and equal to or less than 3 miles per square mile on 48 percent of the Forest. Habitat effectiveness for surrogate wildlife species would be improved from a low level of habitat effectiveness to a moderate level of habitat effectiveness in portions of 15 watersheds as desired conditions for road access are achieved.

This alternative would not change the current level of winter or summer motorized trail use, thus would not change the effects to surrogate species habitat effectiveness. Overall, this alternative would provide greater habitat effectiveness for surrogate wildlife species than the no-action, B, and O alternatives, and less than the R and P alternatives. The implementation of this alternative would result in some improvement in the viability outcomes for surrogate wildlife species used to assess the effects of roads and trails on wildlife habitats.

### **Climate Change**

The sensitivity of surrogate wildlife species used to assess the effects of roads and motorized recreation is rated as moderate for bighorn sheep, and high for Canada lynx and wolverine (CCSD 2013). An important climate change adaptation that has been recommended for wildlife is to reduce the negative effects of roads (and trails) on habitat (Gaines et al. 2012, Lawler et al. 2014). By reducing the negative effects of roads, habitats (especially riparian and wetland habitats) can become more resilient to the effects of climate change, and habitat connectivity can be restored allowing wildlife to adjust their ranges as conditions change. The implementation of this alternative includes management direction to make modest improvement to habitat effectiveness for surrogate wildlife by reducing road impacts and densities.

### **Cumulative Effects**

The adjacent Federal land managers include the Okanogan-Wenatchee National Forest to the west, the Idaho Panhandle National Forest to the east, and the Pend Oreille National Wildlife Refuge to the southeast. The Idaho Panhandle National Forest and the Pend Oreille National Wildlife Refuge have management plans that reduce the negative effects of roads on wildlife habitats and restore habitat effectiveness (USFWS 2000, USFS 2015). The Okanogan-Wenatchee National Forest is in the process of revising their forest plan and current plan provides limited management direction to reduce the effects of roads on wildlife habitat, mostly focused on big-game species.

The limited management direction in the existing Forest Plan to reduce the negative effects of roads on wildlife and continued development of private lands (located mostly in north-south valley bottoms that bisect the Forest) means that management of roads and motorized trails on Federal lands is even more important to the viability of surrogate wildlife species.

Border Patrol activities on the Forest have the potential to cause disturbance through use of roads or trails that are normally closed to motorized use. The exact extent or amount of the impact over the life of the plan is difficult to predict because many factors could influence Border Patrol activities. Recreation is likely to increase on all land ownerships due to increasing demands. This would increase human disturbance and result in NFS lands that have relatively low human disturbance to become more important to wildlife.

### **Summary**

Implementation of this alternative would make a moderate contribution to the viability of surrogate wildlife species whose habitats are influenced by motorized access. This would occur because:

- 1) The alternative includes management direction to moderately reduce the effects of roads on habitat effectiveness for surrogate wildlife species, and

- 13897 2) This alternative does not alter the current effects that summer and winter motorized trails  
13898 have of habitat effectiveness for surrogate wildlife species.

## 13899 **Livestock Grazing**

### 13900 *Surrogate Wildlife Species*

#### 13901 **Direct and Indirect Effects**

13902 Grazing can influence habitats of surrogate wildlife species by removing key habitat elements (e.g.,  
13903 dense shrubs for MacGillivray's warbler and fox sparrow), especially in riparian habitats; altering  
13904 disturbance regimes that maintain habitat structure (e.g., frequent fires in dry forests and grasslands  
13905 keep open canopy for western bluebird), and influence the availability of important prey species  
13906 (e.g., squirrels for golden eagles). To address the potential effects on surrogate wildlife species, the  
13907 management direction regarding grazing in riparian habitat and upland habitats for each alternative  
13908 was assessed.

13909 This alternative would include management direction for riparian habitats relying mostly on  
13910 guidelines (not standards as in R and P alternatives). Presently, many riparian habitats are in poor  
13911 condition due to the effects of past and current grazing. The plan direction for this alternative would  
13912 make a modest improvement on altering the distribution of livestock that would allow riparian  
13913 habitats to recover.

13914 This alternative includes ecologically based desired conditions for upland non-forest habitats (e.g.,  
13915 rangeland and alpine habitats) and guidelines to protect unique habitats. This alternative would not  
13916 alter the number of livestock, the intensity of grazing, or the amount of area grazed. Presently,  
13917 73 percent of the Forest is in a livestock allotment and animal unit months (AUMs) average about  
13918 25,000 per year. However, management direction could result in some adjustments to the distribution  
13919 of cattle and the intensity of grazing within specific habitats, such as unique habitats. This alternative  
13920 would make modest improvements in the viability outcomes for surrogate wildlife species that were  
13921 used to assess grazing effects.

#### 13922 **Climate Change**

13923 Habitats that are particularly sensitive to the effects of climate change include riparian areas  
13924 (including wetlands) and alpine areas (Lawler et al. 2014). A management adaptation to make these  
13925 habitats more resilient to climate change is to reduce the effects of non-climatic stressors (e.g., roads,  
13926 intense grazing, etc.) (Lawler et al. 2014). This alternative includes management direction (ARCS)  
13927 that would help to restore the resiliency of habitats that are sensitive to climate change.

#### 13928 **Cumulative Effects**

13929 Grazing occurs on nearby private, state, tribal, and Federal lands. Where grazing is allowed on the  
13930 adjacent Okanogan-Wenatchee National Forest and Idaho Panhandle National Forest, it is managed  
13931 to accommodate other public land uses, such as contributing to the viability of surrogate wildlife  
13932 species. On the adjacent Pend Oreille Wildlife Refuge, grazing was reduced over time to allow  
13933 restoration of riparian habitats and is currently only used to achieve specific wildlife habitat  
13934 objectives (USFWS 2000). Grazing on non-Federal lands increases the need to provide for wildlife  
13935 habitats on Federal lands that contribute to the viability of surrogate wildlife species. This alternative  
13936 includes management direction for some key habitats that would better account for the cumulative  
13937 effects of grazing on wildlife habitats.



**Summary**

Implementation of this alternative would make a moderate contribution to viability for surrogate wildlife species that are influenced by domestic grazing. This determination is based on:

- 1) This alternative does include management direction (generally, guidelines and not standards as in R and P alternatives) for riparian habitat that would reduce the negative effects of grazing and improve riparian habitat condition.
- 2) This alternative would not change the number of AUMs or grazing intensity, but may alter the distribution of livestock to protect some unique habitats.
- 3) This alternative would include management direction that could make habitats that are sensitive to the effects of climate change more resilient.

**Snag Habitat**

*Surrogate Wildlife Species*

**Direct and Indirect Effects**

Forest activities that directly influence the availability of habitat for snag-dependent surrogate species include firewood cutting (Bate et al. 2007, Hollenbeck et al. 2013), the loss of snag habitat along roads and at recreation sites from hazard tree removal (Bate et al. 2007, Hollenbeck et al. 2013, Wisdom et al. 2008), and removal of snags during timber harvest for safety reasons (Wisdom et al. 2008). The implementation of this alternative includes management direction for snag habitat to address the potential loss of habitat in timber sale operations, would require that firewood cutting occur in designated areas only, and not allow removal of snags greater than 20 inches d.b.h.

Implementation of this alternative would decrease the loss of snag habitat due to hazard tree removal and firewood cutting along roads within 10 watersheds in the short term (less than 20 years based on Objectives) because roads will be closed (to meet other management objectives). In the longer term (less than 50 years based on desired conditions), this alternative will result in road densities of equal to or less than 2 miles per square mile on 23 percent of the Forest, and equal to or less than 3 miles per square mile on 48 percent of the Forest.

Overall, this alternative will provide greater protection of snag habitat than the no-action, B, and O alternatives, and less than the P and R alternatives. This alternative will enhance the viability outcomes for surrogate wildlife species that are dependent on snag habitats.

**Climate Change**

Surrogate species associated with snag habitats include the pileated woodpecker, white-headed woodpecker, black-backed woodpecker, and Lewis's woodpecker and these species have a medium sensitivity rating to climate change, and the western bluebird as high sensitivity (CCSD 2013). The primary effect that is anticipated from climate change is the loss of habitat due to altered disturbance regimes. The whole landscape restoration approach that is emphasized in this alternative will result in landscapes, including disturbance regimes, that are more resilient to climate change through the application of strategically located restoration treatments in priority locations, and greater use of managed fire to achieve desired conditions for landscape restoration and resiliency. Because forest disturbances such as fire, insects, and diseases directly influence the availability of snag habitat over time, restoration of disturbance regimes to mimic natural processes would aid in restoring snag habitat. In addition, this alternative would reduce non-climatic stressors by limiting the loss of large snags and reducing the impacts of roads.

**Cumulative Effects**

Adjacent Federal land managers include the Okanogan-Wenatchee National Forest to the west, the Idaho Panhandle National Forest to the east, and the Pend Oreille National Wildlife Refuge to the southeast. The Idaho Panhandle National Forest and the Pend Oreille National Wildlife Refuge have management plans that reduce the negative effects of roads on wildlife habitats and more rigorous snag requirements to contribute to the viability of snag-dependent wildlife (USFWS 2000, USFS 2015). The Okanogan-Wenatchee National Forest is in the process of revising their forest plan. The current plan provides limited management direction to reduce the effects of roads on wildlife habitats, and current required snag densities make limited contribution to the viability of surrogate wildlife species. The limited management direction for snag habitat on non-Federal lands adjacent to the planning area, places additional emphasis on providing for viability populations of snag-dependent wildlife species on Federal lands. Fuels reduction projects are possible on all land ownerships, in particular where they are near residences. These can be done in such a way that they restore wildlife habitat that has been affected by fire exclusion, but treatments can lead to the loss of snag habitat for safety reasons.

**Summary**

Implementation of this alternative will make a moderate contribution to the viability of snag-dependent surrogate wildlife species. This determination is based on the following:

- 1) This alternative will focus on restoring disturbance regimes that influence the availability and condition of snag habitat.
- 2) This alternative will make modest reductions in the negative effects of roads on snag habitat.
- 3) This alternative provides management direction to protect snag habitat during vegetation management activities and from being cut for firewood.

**Habitat Connectivity**

*Surrogate Wildlife Species*

**Direct and Indirect Effects**

A number of forest management activities influence habitat connectivity for surrogate wildlife species. These include: the amount, patch sizes, and spatial arrangement of suitable habitats; and the location and density of motorized travel routes, especially in relation to riparian and LSOF habitats. These are addressed in the evaluation of how forest management alternatives will affect habitat connectivity for surrogate wildlife species.

The implementation of this alternative includes management direction to manage wildlife habitats for surrogate wildlife species toward desired conditions that are based on the natural and future range of variability. This means that habitats for a wide-range of species will be managed so that the amount of habitat, patch sizes, and spatial arrangement will mimic conditions under which those species evolved (Hessburg et al. 1999).

In this alternative, management direction for riparian habitats is consolidated into one consistent set of plan components that applies to the Colville National Forest. Guidelines will limit management activities that are allowed to occur within riparian habitats and influence habitat connectivity. This alternative includes greater riparian management area widths along intermittent streams, lakes, and ponds than in the areas previously covered by the INFISH forest plan amendment (USFS 1995).

The implementation of this alternative will reduce the negative effects of roads on habitat connectivity for surrogate wildlife species within 10 watersheds in the short term (less than 20 years based on objectives) because roads will be closed (to meet other management objectives). In the longer term (less than 50 years based on desired conditions), this alternative will result in road densities of equal to or less than 2 miles per square mile on 23 percent of the Forest, and equal to or less than 3 miles per square mile on 48 percent of the Forest.

### **Climate Change**

Maintaining and restoring ecological connectivity is the most oft-cited climate adaptation strategy for biodiversity conservation (Heller and Zavaleta 2009, Opham and Wascher 2004, Parmesan 2006, Spies et al. 2010) and has been identified as an important adaptation strategy for wildlife in northeastern Washington (Gaines et al. 2012). This is because species' range shifts have been the primary biological response to past episodes of climatic change, yet widespread anthropogenic barriers to movement will now challenge species' ability to respond (Price 2002, Thomas and Lennon 1999, Wormworth and Mallon 2006). The implementation of this alternative addresses climate change adaptations that are recommended to maintain or restore habitat connectivity for surrogate wildlife species.

### **Cumulative Effects**

Past, present, and reasonably foreseeable human developments and transportation infrastructure, along with land ownership patterns create cumulative impacts that limit options to conserve and restore regional connectivity. Regional habitat connectivity has been evaluated for a variety of wildlife species, including the surrogate wildlife species used to evaluate connectivity in this planning area (Singleton et al. 2002, WWHCWG 2010, Proctor et al. 2015). These assessments have shown the importance of the Colville National Forest in providing stepping-stone habitats between the Cascades and Selkirk Mountains (Singleton et al. 2002, WWHCWG 2010). Connectivity from the Cascade Range to the Kettle Range and Selkirk Mountains is interrupted by transportation corridors and human developments associated with the Okanogan, Upper Columbia, and Pend Oreille river valleys (Singleton et al. 2002, WWHCWG 2010). Additionally, connectivity planning in southern British Columbia identified linkage areas that could greatly enhance wildlife movements between the Selkirk Mountains and Purcell Mountains (Apps et al. 2007, Proctor et al. 2015).

Reducing the direct and indirect effects of roads on wildlife habitats will contribute to the maintenance and restoration of habitat connectivity, including cumulative effects. Border Patrol activities on the Forest have the potential to cause disturbance through use of roads or trails that are normally closed to motorized use. The exact extent or amount of the impact over the life of the plan is difficult to predict because many factors could influence Border Patrol activities. Recreation is likely to increase on all land ownerships due to increasing demands. This would increase human disturbance and result in NFS lands that have relatively low human disturbance to become more important to wildlife.

### **Summary**

The implementation of this alternative will make a moderate contribution to providing habitat connectivity that is important for the viability of surrogate wildlife species. This conclusion is based on the following:

- 1) Habitat amounts, patch sizes, and connectivity will be managed toward desired conditions based on the natural range of variability, providing condition similar to those under which surrogate wildlife species evolved.

- 14065 2) The negative effects of roads on habitat connectivity, including riparian and LSOF habitat  
14066 will be moderately reduced.

14067 **Riparian Habitats**

14068 *Surrogate Wildlife Species*

14069 **Direct and Indirect Effects**

14070 Forest activities that directly influence the quality and availability of habitat for riparian-dependent  
14071 surrogate species include management of roads, recreation sites, grazing, and vegetation treatments  
14072 that occur within riparian habitats.

14073 In this alternative, management direction for watersheds and riparian habitats is consolidated into  
14074 one consistent set of plan components that applies to the entire Colville National Forest. Guidelines  
14075 will limit management activities that are allowed to occur within riparian habitats. This alternative  
14076 includes greater riparian management area widths along intermittent streams, lakes, and ponds than  
14077 in the areas previously covered by the INFISH forest plan amendment (USFS 1995).

14078 The implementation of this alternative will reduce the effects of roads on riparian habitats within 10  
14079 watersheds in the short term (less than 20 years based on objectives) because roads will be closed (to  
14080 meet other management objectives). In the longer term (less than 50 years based on desired  
14081 conditions) this alternative will result in road densities of equal to or less than 2 miles per square  
14082 mile on 23 percent of the Forest, and equal to or less than 3 miles per square mile on 48 percent of  
14083 the Forest.

14084 This alternative will include management direction for riparian habitats relying mostly on Guidelines  
14085 (not Standards as in R and P alternatives). Presently, many riparian habitats are in poor condition due  
14086 to the effects of past and current grazing. The plan direction for this alternative will make a modest  
14087 improvement on altering the distribution of livestock that will allow riparian habitats to recover.

14088 Overall, this alternative will provide greater protection for riparian habitats than the no-action and  
14089 alternative B, similar to alternative O, and less than the P and R alternatives. The viability outcome  
14090 for surrogate wildlife species that are dependent upon riparian habitats will be improved.

14091 **Climate Change**

14092 Some of the riparian associated surrogate species are rated as high sensitivity to climate change  
14093 (CCSD 2013) and riparian habitats are considered vulnerable to the anticipated effects of climate  
14094 change (Lawler et al. 2014). The primary effect that is anticipated from climate change is the loss of  
14095 habitat and reduced connectivity of riparian habitats due to altered hydrologic and disturbance (fire)  
14096 regimes (Lawler et al. 2014).

14097 The whole landscape restoration approach that is emphasized in this alternative will result in  
14098 landscapes, including disturbance regimes, that are more resilient to climate change through the  
14099 application of strategically located restoration treatments in priority locations. In addition, emphasis  
14100 of this alternative in reducing the negative effects of roads (though not to the same degree as the R or  
14101 P alternatives) on aquatic habitats will help to make them more resilient to disturbances.

14102 **Cumulative Effects**

14103 The adjacent Federal land managers include the Okanogan-Wenatchee National Forest to the west,  
14104 the Idaho Panhandle National Forest to the east, and the Pend Oreille National Wildlife Refuge to the

southeast. The Idaho Panhandle National Forest and the Pend Oreille National Wildlife Refuge have management plans that reduce the negative effects of roads on wildlife habitats and to protect and restore riparian habitats (USFWS 2000, USFS 2015). The Okanogan-Wenatchee National Forest is in the process of revising their Forest Plan and current plan provides limited management direction to reduce the effects of roads on wildlife habitat, and riparian habitat protections in the original Forest Plan were found to be inadequate and were amended (INFISH, PACFISH-USFS 1995, ACS-USFS 1994).

On private lands, Washington State Forestry Practices Act provides some limited protections for riparian habitats. Management of priority watersheds emphasizes using an “all lands” approach to enhance coordination across landowners and may enhance conditions for riparian associated wildlife species. However, habitat protections for riparian habitats on Federal lands will help to mitigate for the limited protections and cumulative effects that occur on private lands.

#### **Summary**

The implementation of this alternative will make a moderate contribution to the viability of riparian-dependent surrogate wildlife species. This determination is based on the following:

- 1) This alternative will make modest reductions in the negative effects that roads have on riparian habitats.
- 2) This alternative will consolidate and make more consistent management direction for riparian habitats using Guidelines and providing larger management zones that existing direction.
- 3) The landscape restoration emphasis of this alternative will restore disturbance regimes, reducing the effects of uncharacteristically severe fires on riparian habitats.

#### **Species of Management Interest**

##### ***Deer and Elk***

#### **Direct and Indirect Effects**

Forest management activities can influence deer and elk populations and habitat use. Vegetation management activities may affect the distribution and abundance of cover and forage. Adequate forage is particularly important during the summer and fall before the following birthing season when this can have a positive effect on the condition pregnant females (Lenz 1997, Cook 1998, Cook 2002, Cook et al. 2004, Cook et al. 2005). The management of forest roads and trails can influence how deer and elk use habitats, and influence the interactions between deer and elk (Rowland et al. 2005, Wisdom et al. 2005a, and b). Additionally, deer and elk can compete with domestic livestock for both food resources (Findholt et al. 2005) and space (Coe et al. 2001, Coe et al. 2005). Thus, the potential effects that vegetation management, road and trail management, and grazing management can have on deer and elk habitats and populations are evaluated for each of the alternatives.

Under the proposed action, cover and forage for deer and elk on winter and summer ranges will be managed commensurate with the natural range of variability. This will result in a sustainable level of cover and more emphasis on enhancement of forage conditions. Considerable research has shown that the management of deer and elk winter habitat should be less focused on the retention of thermal cover, and more focused on the availability of forage on summer and fall habitats (see Cook et al. 2005 for a review).

This alternative will improve habitat effectiveness for deer and elk on summer and winter ranges by reducing the impacts of roads. The Selkirk Elk Herd has a moderate level of habitat effectiveness (low level of human influence) on their winter ranges. Overall, habitat effectiveness will be restored on approximately 24,000 acres of habitat on elk range under this alternative. The desired conditions for elk winter ranges will be to have a low level of human influence (less than 30 percent of the winter range in the zone of influence of an open road, motorized route, or designated ski trail).

For deer, this alternative will result in a high level of habitat effectiveness (low level of human influence) on 31 percent of the winter ranges, a moderate level of habitat effectiveness on 62 percent of the winter ranges, and a low level of habitat effectiveness on 6 percent. The desired conditions for deer winter ranges will be to have a high level of habitat effectiveness (low level of human influence, less than 30 percent of the winter range in the zone of influence of an open road, motorized route, or designated ski trail).

Current management direction for winter ranges is based on road density standards and will be changed to use of the zone of influence (Rowland et al. 2005). This alternative includes more robust range management direction to aid in the recovery of range conditions that are currently in poor condition and have been slow to recover from past grazing practices.

#### **Climate Change**

Deer and elk have a low level of sensitivity to the effects of climate change due to their ability to tolerate a relatively wide range of climatic conditions, their high mobility, and as habitat generalists (CCSD 2013). However, alternatives that restore landscape pattern and functions while reducing the effects of roads on deer and elk summer and winter habitats will provide more resilience deer and elk populations. This alternative emphasizes landscape-scale restoration and provides consistent management direction for roads that will make modest contributions to restore habitat effectiveness for deer and elk.

#### **Cumulative Effects**

The historical cattle and sheep grazing that occurred on portions of the Forest degraded range conditions (Wissmar et al. 1994, Bunting et al. 2002). These conditions, combined with current domestic (cattle) and wild ungulate grazing (primarily elk and deer), have resulted in the maintenance or slow recovery of poor range conditions in some areas (Bunting et al. 2002). In turn, these poor range conditions have had negative effects on some important unique habitats such as riparian areas and meadows. This alternative will result in more rigorous grazing management direction that will help to address this situation.

Winter ranges for the deer and elk occur on Federal lands, adjacent Wildlife Management Areas managed by the State, and private lands. Elk herd management plans (WDFW 2001) provide guidance for elk management on state lands and make recommendations for elk management on Forestland. Management plans for deer include the White-tailed Deer Management Plan that covers the two management units on the Colville National Forest and provides direction to manage hunting to either maintain or increase white-tailed deer populations (WDFW 2010). A statewide general management plan for mule deer has been developed but does not provide herd-specific management objectives (WDFW 2008). Mule deer are widely distributed across the Forest. A considerable amount of historical winter range for deer and elk is now in private land ownership or under the waters of Lake Roosevelt (created by the Grand Coulee dam). The cumulative effects of the existing management plans (state and Federal lands) will provide for the conditions that contribute to sustainable populations of deer and elk, while considering the impacts of private land development.

**Summary**

The implementation of the proposed action will make a moderate contribution to the conditions that support sustainable populations of deer and elk. This is based on the following:

- 1) This alternative will address new science that recommends de-emphasizing the importance of winter thermal cover and increasing the emphasis on summer and fall forage quality and quantity.
- 2) This alternative provides consistent and effective direction on the management of roads and trails to restore habitat effectiveness on deer and elk summer and winter ranges.
- 3) This alternative will include more rigorous management direction to improve the conditions of key habitats, such as riparian areas and meadows, which are in poor condition due to the cumulative effects of past grazing practices, and current domestic and wild ungulate grazing.

**Alternative R**

**Federally Listed Wildlife Species**

***Grizzly Bear***

**Direct and Indirect Effects**

Forest activities that influence the recovery of the grizzly bear include: human access that can displace bears from important seasonal habitats or increase the risk of bear-human interactions, disposal of livestock carcasses within range allotments to avoid attracting bears to a potential food source, and the storage of food and garbage at recreation sites to reduce the potential for bears to associate humans with food sources.

Management of grizzly bears does not vary between alternatives. Existing management direction provides standards for human access, disposal of livestock carcasses, and food and garbage storage within the Selkirk Grizzly Bear Recovery Area (IGBC 1998, USDA 1988, USFWS 1993, USDI 2001). Existing standards have largely been met and will continue to be followed.

**Climate Change**

Grizzly bears have been identified as having a low sensitivity to climate change because they are opportunistic, eat a diverse array of food resources, and are highly adaptable (Servheen and Cross 2010, CCSD 2013). Anticipated impacts may include changes in the timing of denning due to longer snow-free periods and reduced snowpack (Lawler et al. 2014) and changes in the availability of food sources (Servheen and Cross 2010). These changes may put bears at risk of negative human interactions for a longer period of time each year (Servheen and Cross 2010). This will make education, proper food and garbage storage, carcass disposal measures, and human access management that much more important.

**Cumulative Effects**

The primary reason for the low population of grizzly bears in the recovery zone is past persecution and human-caused mortality of bears. Legal protections are now in place to protect grizzly bears. Information/education programs, sanitation measures, and access management have and will continue to be used to aid in the recovery of grizzly bears in the Selkirk Recovery Area.

Past, present and reasonable foreseeable future actions that could affect grizzly bears include timber harvest and associated road construction, recreational activities that can cause disturbance to bear and create potential for human-bear conflicts, and human development that fragment grizzly bear

14231 habitat. Cumulative effects are evaluated across the Recovery Area by tracking activities within  
14232 Grizzly Bear Management Units (GBMUs). Other land managers have adopted and are following  
14233 similar management direction (IPNF 2015) and overall recovery is coordinated by the Selkirk  
14234 Grizzly Bear Management Subcommittee. GBMUs that occur on the Colville National Forest include  
14235 the LeClerc, Salmo-Priest, and Sullivan-Hughes. The contribution made on Federal lands to grizzly  
14236 bear recovery would help to mitigate potential cumulative effects from off-forest activities. However,  
14237 because this alternative does not address reducing the negative impacts of roads on wildlife habitats  
14238 like in the proposed action and alternatives R and P, it does less to mitigate cumulative effects.

14239 Border Patrol activities on the Forest have the potential to cause disturbance through use of roads or  
14240 trails that are normally closed to motorized use. The exact extent or amount of the impact over the  
14241 life of the plan is difficult to predict because many factors could influence Border Patrol activities.

14242 Fuels reduction projects are possible on all land ownerships, in particular where they are near  
14243 residences. These can be done in such a way that they restore wildlife habitat that has been affected  
14244 by fire exclusion.

14245 Recreation is likely to increase on all land ownerships due to increasing demands. This would  
14246 increase human disturbance and result in NFS lands that have relatively low human disturbance (e.g.,  
14247 core areas) to become more important to wildlife such as grizzly bears.

14248 Black bear hunting on both sides of the international border within the Selkirk Recovery Area has the  
14249 potential to add cumulatively to the mortality of grizzly bears. Hunters that encounter grizzly bears  
14250 may mistakenly identify the bear, kill the bear in self-defense, or opportunistically poach the bear.  
14251 Human access management within the recovery area is key to reducing the risk of mortality to  
14252 grizzly bears from black bear hunting.

14253 On private lands, the presence of garbage, pet food, fruit trees, or other attractants may lure bears  
14254 into conflict situations. Bears that become habituated or a nuisance may lead to the bear being killed.

#### 14255 **Summary**

14256 This alternative will make a relatively high contribution to the recovery of grizzly bears in the  
14257 Selkirk Recovery Area and will result in a May Affect, Not Likely to Adversely Affect. This is based  
14258 on the existing management direction, followed in all alternatives, that addresses:

- 14259 1) Human access management,  
14260 2) Disposal of carcasses in range allotments that occur in the recovery area, and  
14261 3) Proper storage of food, garbage and other attractants that may lead to human-bear  
14262 interactions.

#### 14263 *Canada Lynx*

#### 14264 **Direct and Indirect Effects**

14265 The forest management activities that influence the recovery and conservation of Canada lynx  
14266 include: vegetation management that affect lynx habitat components, winter recreation that  
14267 influences habitat connectivity and lynx habitat use, forest roads that can become sources of lynx  
14268 mortality at high traffic volumes and speeds, and grazing effects to riparian areas that provide habitat  
14269 for snowshoe hares, a primary food resource for lynx (ILBT 2013). The Interagency Lynx Biology  
14270 Team (ILBT 2013) developed conservation measures for core and secondary areas (USFWS 2005) to  
14271 address each of these forest management activities, and for planners to consult when revising forest



14272 plans. These were used to evaluate the potential contribution of forest management alternatives to the  
14273 recovery of Canada lynx.

14274 Vegetation management activities affect the distribution of lynx habitat components, can fragment  
14275 habitats, and create sources of disturbance (ILBT 2013). As a result, risk factors associated with  
14276 vegetation management have been identified and conservation measures recommended to address the  
14277 risk factors (ILBT 2013). The conservation measures for vegetation management apply to lynx core  
14278 areas and include mimicking the pattern and scale of natural disturbances and connectivity across the  
14279 landscape while considering the future range of variability (ILBT 2013). A The ILBT (2013) also  
14280 recommended a conservation measure focused on the restoration of disturbance regimes in dry  
14281 forests that occur in close proximity to lynx habitat to reduce the risk of uncharacteristically severe  
14282 and frequent fires reaching lynx habitat. Finally, there are conservation measures that limit the  
14283 amount of vegetation management and the rate of habitat change (e.g., acres treated/decade) within  
14284 lynx analysis units. Alternative R emphasizes an LSOF Reserve network covering about 48 percent  
14285 of the Forest. The remaining Matrix, covering about 25 percent of the Forest, will be managed  
14286 primarily for timber production. No management direction in this alternative guides land  
14287 management to mimic the pattern and scale of natural disturbances as recommended for the  
14288 vegetation conservation measures.

14289 Conservation measures were identified to address the effects that highways have on habitat  
14290 connectivity for lynx in core areas (ILBT 2013).

14291 Conservation measures for winter recreation in lynx core areas included reducing effects on habitat  
14292 connectivity and to discourage expansion of over-the-snow routes that may influence lynx habitat  
14293 use (ILBT 2013). The implementation of this alternative will include management direction that  
14294 addresses effects of over-the-snow recreation on lynx habitat.

14295 The conservation measures for forest roads in lynx core areas include avoiding road reconstruction  
14296 or upgrades that occur in lynx habitat and will result in increased traffic speeds or volumes (ILBT  
14297 2013). These measures would reduce the potential for vehicular traffic to result in a source of  
14298 mortality to lynx. There is management direction in this alternative to address this conservation  
14299 measure.

14300 The conservation measures for grazing in lynx core areas include management of riparian areas to  
14301 assure adequate habitat for snowshoe hares, the primary prey species for Canada lynx (ILBT 2013).  
14302 Alternative R will include management direction for grazing in riparian areas to provide for habitat  
14303 for listed fish species, and direction specific to Canada lynx or snowshoe hares.

14304 Alternative R will provide management direction to address most, but not all (see discussion above)  
14305 of the direct and indirect effects of forest management activities on the recovery of Canada lynx.  
14306 Alternative R will provide protection for Canada lynx that is greater than the no-action, B and O  
14307 alternatives but less than the proposed action and alternative P.

#### 14308 **Climate Change**

14309 The potential effects of climate change on Canada lynx identified by the Interagency Lynx Biology  
14310 Team (2013) included: (1) an upward shift in elevation or latitudinal distribution of lynx and prey,  
14311 (2) a decrease in the amount of habitat and population size from reduced snow persistence and  
14312 increased disturbance events (e.g., fires), (3) changes in demographic rates, such as survival and  
14313 reproduction, and (4) changes in predator-prey relationships.

- 14314 Climate change adaptations to address these effects include restoration of landscape-scale  
14315 disturbance regimes to better mimic natural patterns and processes (Spies et al. 2010, Gaines et al.  
14316 2012, Lawler et al. 2014), and maintaining or restoring habitat connectivity to allow Canada lynx to  
14317 adjust their ranges to changing conditions (Heller and Zavaleta 2009, ILBT 2013, Squires et al.  
14318 2013). There is limited management direction in alternative R to address these climate change  
14319 adaptations.
- 14320 **Cumulative Effects**
- 14321 Past, present, and reasonably foreseeable actions that affect lynx habitat include timber harvest and  
14322 fuels reduction, recreation, human development, and grazing on private and public lands. In addition,  
14323 legal trapping of lynx, timber harvest, oil and gas development, mining and human access in British  
14324 Columbia have and will continue to affect Canada lynx habitat.
- 14325 Past vegetation management and large-scale fires on the Forest within lynx habitat has resulted in a  
14326 distribution and amount of successional stages (early, mid, late) that are outside the HRV. This  
14327 alternative would not emphasize vegetation management activities to restore lynx habitats toward the  
14328 HRV.
- 14329 Border Patrol activities on the Forest have the potential to cause disturbance through use of roads or  
14330 trails that are normally closed to motorized use. The exact extent or amount of the impact over the  
14331 life of the plan is difficult to predict because many factors could influence Border Patrol activities.
- 14332 Grazing has occurred and would continue to take place on off-forest lands potentially impacting  
14333 deciduous or riparian habitats for lynx prey species.
- 14334 Fuels reduction projects are possible on all land ownerships, in particular where they are near  
14335 residences. These can be done in such a way that they restore wildlife habitat that has been affected  
14336 by fire exclusion.
- 14337 Recreation is likely to increase on all land ownerships due to increasing demands. This would  
14338 increase human disturbance and result in NFS lands that have relatively low human disturbance to  
14339 become more important to wildlife.
- 14340 All Federal lands within Canada lynx core and secondary areas will use the Lynx Conservation  
14341 Assessment and Strategy (LCAS) (ILBT 2013) as current science to guide project level consultation  
14342 and land management planning. The North Cascades National Park Complex recently revised their  
14343 management plan to include the LCAS (NPS 2012). The Idaho Panhandle National Forest land  
14344 management plan was recently revised to address the conservation measures identified in the LCAS  
14345 (USFS 2015). The conservation of lynx on WDNR lands is guided by the Department of Natural  
14346 Resources Lynx Habitat Management Plan (WDNR 1996, updated in 2002). The management plan  
14347 for the Pend Oreille National Wildlife Refuge provides conservation measures to contribute to the  
14348 recovery and viability of Canada lynx (USFWS 2000). Collectively, these management plans have  
14349 addressed many of the conservation measures identified for Canada lynx (ILBT 2013) and would  
14350 help mitigate potential cumulative effects that may occur from off-forest activities. In addition, no  
14351 critical habitat was identified on the Colville National Forest or on adjacent lands (USFWS 2009).
- 14352 In Canada, timber harvesting, oil and gas development, coal mining, and the proliferation of human  
14353 access associated with these industries, have and will continue to affect lynx habitat. Legal trapping  
14354 occurs north of the Forest in Canada and could reduce the potential for lynx to disperse into the lynx  
14355 habitat on the Forest. Trapping is not legal in Idaho, Montana, or Washington.

**Summary**

Alternative R will make a moderate contribution to the recovery of the Canada lynx in both the short (less than 20 years) and long (less than 50 years) term, and result in a May Effect, Likely to Adversely Affect determination. This is because of the following:

- 1) This alternative does not address the vegetation management conservation measures identified in the recent version of the Lynx Conservation Assessment and Strategy (ILBT 2013) to mimic natural vegetation pattern and processes.
- 2) This alternative does address the conservation measures for roads, over-the-snow activities, and grazing, and
- 3) This alternative will address some of the climate change adaptations but will not emphasize landscape-scale restoration of landscape resiliency.

**Late-successional and Old Forest Habitats (Federally Listed Species)**

*Woodland Caribou*

**Direct and Indirect Effects**

The forest management activities that can influence the recovery and viability of woodland caribou include: (1) Vegetation management and natural disturbances affect the amount and connectivity of old growth forests of Engelmann spruce/subalpine fir and western redcedar/western hemlock. (2) Human access that can increase the potential for poaching and cause disturbance to caribou during the critical winter period. These effects were used to evaluate the potential contribution of each alternative to the recovery of woodland caribou.

This alternative will implement new science, recommendations from the Biological Opinion issued in 2001 (USFWS 2001) on the 1988 forest plan (USFS 1988), and address the critical habitat designation (USFWS 2012). Vegetation management will be focused on the protection of late-successional and old growth habitats based on a network of reserves. The desired conditions address the amount, spatial arrangement, and connectivity of caribou habitat to mimic natural patterns and processes.

A term and condition of the 2001 Biological Opinion was that the Forest develop a winter recreation strategy that protects important winter habitats for caribou while providing some level of winter recreation access. This strategy was developed (USFS 2003) and will be fully integrated into this alternative. The strategy includes information and education about the effects of winter recreation on wildlife, monitoring and enforcement of areas closed to over-the-snow activities, and limitations on permitted over-the-snow activities. Collectively, these actions have reduced the impacts of winter recreation to caribou habitat while providing recreation opportunities in areas and at the time of the winter season when effects to caribou are minimal. In addition to winter recreation, this alternative emphasizes substantially reducing the negative effects of forest roads on wildlife habitat.

**Climate Change**

Climate change will likely alter the distribution and abundance of suitable caribou habitat, and will also change snow depths and persistence, which affect seasonal movements of mountain caribou (WDFW 2012). The potential effects of climate change depend on the interaction, not only of seasonal temperatures and snowfall patterns, but also occurrence of wildfires, outbreaks of forest insects, and diseases (Mountain Caribou Science Team 2005). Management adaptations to address the effects of climate change include a focus on forest restoration and reducing non-climatic factors

14398 that affect wildlife populations (e.g., restoring habitat effectiveness). This alternative will implement  
14399 these adaptations.

14400 **Cumulative Effects**

14401 The caribou recovery area is 1,477 square miles in size and includes the Colville National Forest,  
14402 Idaho Panhandle National Forest, Idaho Department of Lands, and British Columbia. About  
14403 47 percent of the recovery area is in the United States and 53 percent in British Columbia. The Idaho  
14404 Panhandle National Forest recently revised the forest plan to address habitat and risk factors  
14405 identified in the caribou recovery plan and critical habitat (USFS 2015). The caribou recovery team  
14406 works cooperatively to address cumulative effects on woodland caribou.

14407 Past activities on the Forest have impacted caribou habitat. Over-the-snow motorized use, prior to  
14408 the implementation of the Winter Recreation Strategy (USFS 2003), may have caused disturbance to  
14409 caribou. The alternative would continue with implementation of the Winter Recreation Strategy,  
14410 limiting the cumulative effects on caribou.

14411 Past vegetation management and disturbances on the Forest have resulted in the distribution and  
14412 arrangement of successional stages (early, mid, late) that are outside the HRV. Presently, more of the  
14413 landscape is in med-successional and less in late-successional habitats compared to HRV. This  
14414 alternative would emphasize the protection and restoration of LSOF habitat within the caribou  
14415 recovery area, helping to mitigate for the cumulative effects of off-forest timber harvest.

14416 Border Patrol activities on the Forest have the potential to cause disturbance through use of roads or  
14417 trails that are normally closed to motorized use. The exact extent or amount of the impact over the  
14418 life of the plan is difficult to predict because many factors could influence Border Patrol activities.

14419 Fuels reduction projects are possible on all land ownerships, in particular where they are near  
14420 residences. These can be done in such a way that they restore wildlife habitat that has been affected  
14421 by fire exclusion.

14422 Recreation is likely to increase on all land ownerships due to increasing demands. This would  
14423 increase human disturbance and result in NFS lands that have relatively low human disturbance to  
14424 become more important to wildlife such as caribou. However, because this alternative does not  
14425 address the negative impacts of roads on wildlife habitat, it provides less opportunity to mitigate the  
14426 cumulative effects of recreation.

14427 Big game hunting continues on both sides of the U.S./Canada border. Encounters with hunters may  
14428 result in caribou mortality as a result of mistaken identification. Legal harvest of caribou by Treaty  
14429 Indians does occur, but with few statistics on the number of animals taken it is difficult to evaluate  
14430 the influence of this on the caribou population. Fatal collisions with vehicles occur on open roads in  
14431 caribou habitat and are likely to continue. Predation by mountain lions, wolves and other predators  
14432 will continue, with the effect on the caribou population dependent on big game populations, predator  
14433 populations and a variety of other factors.

14434 One important factor is how the Canadian officials decide to manage this herd. In the British  
14435 Columbia portion of the recovery area, human activities that will continue to impact caribou habitat  
14436 include gas, powerline, and international border corridors; recreation activities; timber harvest; and  
14437 highways.

**Summary**

Implementation of this alternative would have a May Affect, not Likely to Adversely Affect determination for woodland caribou. It would make a relatively high contribution to the recovery of woodland caribou. The reasons for this determination are:

- 1) This alternative would address new science and risk factors identified in the recovery plan and critical habitat.
- 2) This alternative would formally adopt the winter recreation strategy for caribou habitat that was a Term and Condition of the 2001 Biological Opinion.
- 3) This alternative emphasizes the protection and restoration of caribou habitat, better addressing expected climate change effects and enhancing resiliency.

***Surrogate Wildlife Species***

**Direct and Indirect Effects**

Forest activities that directly influence the viability of late-successional and old forest (LSOF) dependent surrogate species include: the loss of LSOF habitat from fire (Healy et al. 2008, Davis et al. 2011), vegetation treatments (e.g., timber harvest, thinning, prescribed fire) that affect forest structure (e.g., canopy closure, snags, downed wood)(Healy et al. 2008, Wisdom et al. 2008, Davis et al. 2011), management of roads that influence habitat effectiveness (Gaines et al. 2003), and protection of riparian areas which are an important element of LSOF habitats for some species (e.g., bald eagles).

This alternative provides for the viability of LSOF species through a system of LSOF emphasis areas that encompass about 44 percent of the Forest. This alternative attempts to better accommodate habitat loss from fires and other disturbances by creating a larger network of LSOF habitats with increasing redundancy. This emphasizes short-term habitat protection for LSOF species instead of landscape-scale restoration (as in the proposed action and alternative P).

The implementation of this alternative includes plan components for several key elements of LSOF habitat. For instance, desired conditions for snag habitat address the potential loss of habitat in vegetation management treatments. This alternative would allow no firewood cutting in LSOF emphasis areas and no removal of snags greater than 20 inches d.b.h. (except for safety reasons). This alternative includes a 21-inch diameter limit on the removal of trees.

The implementation of this alternative would substantially decrease the negative effects of roads on LSOF habitat within 10 watersheds in the short term (less than 20 years based on objectives) because roads would be closed to meet other management objectives. In the longer term (less than 50 years based on desired conditions) this alternative would result in road densities of equal to or less than 1 mile per square mile on 44 percent of the Forest, and equal to or less than 2 miles per square mile on 25 percent of the Forest, further reducing road associated effects to LSOF habitats and surrogate species.

Overall, this alternative would provide greater protection for LSOF habitats than the no-action, proposed action, and B and O alternatives, and similar to alternative P. This alternative would improve the viability outcomes for surrogate wildlife species that are dependent on LSOF habitats in both the short (less than 20 years) and long (less than 50 years) time periods as desired conditions are achieved.

**Climate Change**

The sensitivity of LSOF associated surrogate wildlife species to the effects of climate change were identified as medium for pileated woodpecker, and high for northern goshawk and American marten (CCSD 2013). The primary effect of climate change is the loss of LSOF habitats due to altered disturbance regimes (CCSD 2013, Lawler et al. 2014).

Since the mid-1980s, the size and intensity of large wildfires in the western United States have increased markedly (Westerling et al. 2006), due, in part, to a reduction in fuel moisture driven by increased temperature and lower snowpack. Increases in fire risk and severity have been also been driven, in part, by increased fuel loads because of fire suppression practices used over the last century (McKenzie et al. 2004). Predicted increases in spring and summer temperature identified in many climate change models would exacerbate the frequency and intensity of disturbances such as fire (McKenzie et al. 2004, Wotton and Flannigan 1993) and defoliation caused by forest insects (Littell et al. 2009). In the interior Columbia Basin, Littell et al. (2009) predicted that the area burned is likely to double or even triple by 2050. Climate-driven changes in fire regimes would likely be the dominant driver of changes to forests and LSOF habitats in the western United States over the next century (McKenzie et al. 2004).

The effectiveness of a system of reserves may be compromised under climate change as species' habitat shifts to nonreserved areas (Araujo et al. 2004, Carroll et al. 2009). The LSOF habitat network proposed in this alternative would add additional area (compared to the no-action, B, and O alternatives) to increase redundancy in the LSOF network. However, this alternative does not focus on landscape-scale forest restoration that has been identified as an important climate change adaptation to maintain LSOF habitats (Lawler et al. 2014).

**Cumulative Effects**

The adjacent Federal land managers include the Okanogan-Wenatchee National Forest to the west, the Idaho Panhandle National Forest to the east, and the Pend Oreille National Wildlife Refuge to the southeast. The Idaho Panhandle National Forest and the Pend Oreille National Wildlife Refuge have management plans that reduce the negative effects of roads on wildlife habitats and to protect and restore LSOF habitats (USFWS 2000, USFS 2015). The Okanogan-Wenatchee National Forest is in the process of revising their Forest Plan and current plan provides limited management direction to reduce the effects of roads on wildlife habitat, and LSOF habitat protections in the original Forest Plan were found to be inadequate and were amended by the Eastside Screens (USFS 1995).

Past vegetation management and disturbances on the Forest have resulted in the distribution and arrangement of successional stages (early, mid, late) that are outside the HRV. Presently, more of the landscape is in med-successional and less in late-successional habitats compared to HRV. This alternative would emphasize the protection and restoration of LSOF habitat within management areas that cover about 44 percent of the Forest under this alternative, helping to mitigate for the cumulative effects of off-forest timber harvest.

Border Patrol activities on the Forest have the potential to cause disturbance through use of roads or trails that are normally closed to motorized use. The exact extent or amount of the impact over the life of the plan is difficult to predict because many factors could influence Border Patrol activities.

Fuels reduction projects are possible on all land ownerships, in particular where they are near residences. These can be done in such a way that they restore wildlife habitat that has been affected by fire exclusion.

**Summary**

The implementation of this alternative would make a relatively high contribution to the viability of LSOF dependent surrogate wildlife species. The contribution would be due to the following components of this alternative:

- 1) Emphasis on the protection of LSOF habitats.
- 2) The protection and conservation of key elements of LSOF habitat such as large trees, large snags, and riparian areas, and
- 3) The emphasis on restoring habitat effectiveness by substantially reducing the negative effects of roads on LSOF habitats.

**Motorized Recreation and Road Access**

***Surrogate Wildlife Species***

**Direct and Indirect Effects**

Motorized recreation and the use of forest roads influence the viability of surrogate wildlife species. These potential effects include displacement from key habitats, disturbance during critical periods, and the risk of mortality caused by collisions with vehicles (see Wisdom et al. 2000 and Gaines et al. 2003 for a complete list of road and trail associated factors that influence wildlife). The effects of motorized recreation and roads can occur during the non-winter period or during the winter period when snowmobiling or ski-trail grooming occurs.

Implementation of this alternative would reduce the negative effects of roads on surrogate species habitats in 10 watersheds in the short term (less than 20 years based on objectives). In the longer term (less than 50 years based on desired conditions) this alternative would result in road densities of equal to or less than 1 mile per square mile on 44 percent of the Forest, and equal to or less than 2 miles per square mile on 25 percent of the Forest. Habitat effectiveness (as affected by roads) for surrogate wildlife species would be improved from a current low level of habitat effectiveness in 32 watersheds to a moderate level of habitat effectiveness in 16 watersheds and a high level of habitat effectiveness in 16 watersheds as desired conditions for road access are achieved.

Implementation of this alternative would also reduce the impacts of summer-motorized trails on habitat effectiveness for surrogate wildlife species. Approximately 30 miles of summer-motorized trails would be reduced or converted to non-motorized use within two watersheds. The implementation of this alternative would result in the highest habitat effectiveness for surrogate wildlife species as a result of reducing the impacts of roads and motorized trails.

**Climate Change**

The sensitivity of surrogate wildlife species used to assess the effects of roads and motorized recreation is rated as moderate for bighorn sheep, and high for Canada lynx and wolverine (CCSD 2013). An important climate change adaptation that has been recommended for wildlife is to reduce the negative effects of roads (and trails) on habitat (Gaines et al. 2012, Lawler et al. 2014). By reducing the negative effects of roads, habitats (especially riparian and wetland habitats) can become more resilient to the effects of climate change, and habitat connectivity can be restored allowing wildlife to adjust their ranges as conditions change. The implementation of this alternative includes management direction to make substantial improvement to habitat effectiveness for surrogate wildlife by reducing road and motorized trail impacts and densities.

**Cumulative Effects**

The adjacent Federal land managers include the Okanogan-Wenatchee National Forest to the west, the Idaho Panhandle National Forest to the east, and the Pend Oreille National Wildlife Refuge to the southeast. The Idaho Panhandle National Forest and the Pend Oreille National Wildlife Refuge have management plans that reduce the negative impacts of roads on wildlife habitats and restore habitat effectiveness (USFWS 2000, USFS 2015). The Okanogan-Wenatchee National Forest is in the process of revising their Forest Plan and current plan provides limited management direction to reduce the effects of roads on wildlife habitat, mostly focused on big-game species.

The limited management direction in the existing Forest Plan to reduce the negative effects of roads on wildlife and continued development of private lands (located mostly in north-south valley bottoms that bisect the Forest) means that management of roads and motorized trails on Federal lands is even more important to the viability of surrogate wildlife species.

Border Patrol activities on the Forest have the potential to cause disturbance through use of roads or trails that are normally closed to motorized use. The exact extent or amount of the impact over the life of the plan is difficult to predict because many factors could influence Border Patrol activities. Recreation is likely to increase on all land ownerships due to increasing demands. This would increase human disturbance and result in NFS lands that have relatively low human disturbance to become more important to wildlife.

**Summary**

Implementation of this alternative would make a relatively high contribution to the viability of surrogate wildlife species. This would occur because:

- 1) the alternative includes management direction to substantially reduce the impact of roads on habitat effectiveness for surrogate wildlife species, and
- 2) this alternative reduces the effects that summer motorized trails have of habitat effectiveness for surrogate wildlife species.

**Livestock Grazing**

*Surrogate Wildlife Species*

**Direct and Indirect Effects**

Grazing can influence habitats of surrogate wildlife species by removing key habitat elements (e.g., dense shrubs for MacGillivray's warbler and fox sparrow), especially in riparian habitats; alter disturbance regimes that maintain habitat structure (e.g., frequent fires in dry forests and grasslands keep open canopy for western bluebird); and influence the availability of important prey items (e.g., squirrels for golden eagles). To address the potential effects on surrogate wildlife species, the management direction regarding grazing in riparian habitat and upland habitats for each alternative was assessed.

This alternative would include management direction for riparian habitats that includes additional Standards (compared to the no-action, proposed action, B, and O alternatives). Presently, many riparian habitats are in poor condition due to the effects of past and current grazing. The plan direction for this alternative would make a considerable improvement on altering the distribution of livestock that would allow riparian habitats to recover.



This alternative includes ecologically based desired conditions for upland non-forest habitats (e.g., rangeland and alpine habitats) and standards to protect unique habitats. This alternative would not alter the number of livestock, the intensity of grazing, or the amount of area grazed. Presently, 73 percent of the Forest is in a livestock allotment and animal unit months (AUMs) average about 25,000 per year. However, management direction would result in adjustments to the distribution of cattle and the intensity of grazing within specific habitats, such as unique habitats. This alternative, along with alternative P, has the greatest potential to improve viability outcomes for surrogate wildlife species that are influenced by grazing.

#### **Climate Change**

Habitats that are particularly sensitive to the effects of climate change include riparian areas (including wetlands) and alpine areas (Lawler et al. 2014). A management adaptation to make these habitats more resilient to climate change is to reduce the effects of non-climatic stressors (e.g., roads, intense grazing, etc.) (Lawler et al. 2014). This alternative includes management direction that would help to restore the resiliency of habitats that are sensitive to climate change.

#### **Cumulative Effects**

Grazing occurs on nearby private, state, tribal, and Federal lands. Where grazing is allowed on the adjacent Okanogan-Wenatchee National Forest and Idaho Panhandle National Forest, it is managed to accommodate other public land uses, such as contributing to the viability of surrogate wildlife species. On the adjacent Little Pend Oreille Wildlife Refuge, livestock grazing was reduced over time to allow restoration of riparian habitats and is currently only used to achieve specific wildlife habitat objectives (USFWS 2000). Grazing on non-Federal lands increases the need to provide for wildlife habitats on Federal lands that contribute to the viability of surrogate wildlife species.

This alternative includes management direction for some key habitats that would better account for the cumulative effects of grazing on wildlife habitats.

#### **Summary**

Implementation of this alternative would make a relatively high contribution to viability for surrogate wildlife species that are influenced by domestic grazing. This determination is based on:

- 1) This alternative includes management direction (including standards) for riparian habitat that would reduce the negative effects of grazing and improve riparian habitat condition.
- 2) This alternative would not change the number or grazing intensity, but would alter the distribution of livestock to protect some unique habitats.
- 3) This alternative would include management direction that could make habitats that are sensitive to the effects of climate change more resilient.

#### **Habitat Connectivity**

##### ***Surrogate Wildlife Species***

#### **Direct and Indirect Effects**

A number of forest management activities influence habitat connectivity for surrogate wildlife species. These include: the amount, patch sizes, and spatial arrangement of suitable habitats; location and density of motorized travel routes, especially in relation to riparian and LSOF habitats. These are addressed in the evaluation of how forest management alternatives would affect habitat connectivity for surrogate wildlife species.

This alternative is focused on providing habitat connectivity for LSOF species through a network of LSOF emphasis areas that encompass a considerably larger area than any other alternative. The LSOF emphasis areas are positioned at distances from each other to allow highly mobile species to move among them. Additional provisions for low to moderate mobility LSOF species are provided through management direction for riparian management areas. There is limited direction for habitat connectivity for species not associated with LSOF habitats (e.g., wide-ranging carnivores, Singleton et al. 2002).

In this alternative, management direction for riparian habitats is consolidated into one consistent set of plan components that applies to the entire Colville National Forest. Standards and guidelines would limit management activities that are allowed to occur within riparian habitats and influence habitat connectivity. This alternative includes greater riparian management area widths along intermittent streams, lakes, and ponds than in the areas previously covered by the INFISH forest plan amendment (USFS 1995).

Implementation of this alternative would decrease the negative effects of roads on habitat connectivity for surrogate wildlife species within 10 watersheds in the short term (less than 20 years based on objectives) because roads would be closed to meet other management objectives. In the longer term (less than 50 years based on desired conditions), this alternative would result in road densities of equal to or less than 1 mile per square mile on 44 percent of the Forest, and equal to or less than 2 miles per square mile on 25 percent of the Forest, further reducing road associated effects to habitat connectivity.

Implementation of this alternative would also reduce the effects of summer-motorized trails on habitat connectivity for surrogate wildlife species. Approximately 30 miles of summer-motorized trails would be reduced or converted to non-motorized use within two watersheds.

### **Climate Change**

Maintaining and restoring ecological connectivity is the most oft-cited climate adaptation strategy for biodiversity conservation (Heller and Zavaleta 2009, Opham and Wascher 2004, Parmesan 2006, Spies et al. 2010) and has been identified as an important adaptation strategy for wildlife in northeastern Washington (Gaines et al. 2012). This is because species' range shifts have been the primary biological response to past episodes of climatic change, yet widespread anthropogenic barriers to movement will now challenge species' ability to respond (Price 2002, Thomas and Lennon 1999, Wormworth and Mallon 2006). The implementation of this alternative addresses the climate change adaptations that are recommended to maintain or restore habitat connectivity, but emphasizes LSOF species. Other alternatives (e.g., proposed action and P) maintain or restore habitat connectivity for a wider array of wildlife species.

### **Cumulative Effects**

Past, present, and reasonably foreseeable human developments and transportation infrastructure, along with land ownership patterns, create cumulative impacts that limit options to conserve and restore regional connectivity. Regional habitat connectivity has been evaluated for a variety of wildlife species, including the surrogate wildlife species used to evaluate connectivity in this planning area (Singleton et al. 2002, WWHCWG 2010, Proctor et al. 2015). These assessments have shown the importance of the Colville National Forest in providing stepping-stone habitats between the Cascades and Selkirk Mountains (Singleton et al. 2002, WWHCWG 2010). Connectivity from the Cascades to the Kettle Range to the Selkirk Mountains is interrupted by transportation corridors and human developments associated with the Okanogan, Upper Columbia, and Pend Oreille river valleys (Singleton et al. 2002, WWHCWG 2010). Additionally, connectivity planning in southern

British Columbia identified linkage areas that could greatly enhance wildlife movements between the Selkirk Mountains and Purcell Mountains (Apps et al. 2007, Proctor et al. 2015).

This alternative emphasizes reducing the direct and indirect effects of roads on wildlife habitats, contributing to the maintenance and restoration of habitat connectivity, and reducing cumulative effects. Border Patrol activities on the Forest have the potential to cause disturbance through use of roads or trails that are normally closed to motorized use. The exact extent or amount of the impact over the life of the plan is difficult to predict because many factors could influence Border Patrol activities. Recreation is likely to increase on all land ownerships due to increasing demands. This would increase human disturbance and result in NFS lands that have relatively low human disturbance to become more important to wildlife.

### **Summary**

Implementation of this alternative would make a moderate contribution to providing habitat connectivity that is important for the viability of surrogate wildlife species. This conclusion is based on the following:

- 1) An extended network (compared to the existing network) of LSOF habitat areas would provide additional habitat connectivity for LSOF species but limited management direction for wildlife species not associated with LSOF habitats,
- 2) The negative effects of roads on habitat connectivity, including riparian and LSOF habitat would be considerably reduced.

### **Snag Habitat**

#### ***Surrogate Wildlife Species***

#### **Direct and Indirect Effects**

Forest activities that directly influence the availability of habitat for snag-dependent surrogate species include firewood cutting (Bate et al. 2007, Hollenbeck et al. 2013), the loss of snag habitat along roads and at recreation sites from hazard tree removal (Bate et al. 2007, Hollenbeck et al. 2013, Wisdom et al. 2008), and removal of snags during timber harvest for safety reasons (Wisdom et al. 2008). The implementation of this alternative includes management direction for snag habitat to address the potential loss of habitat in timber sale operations, would not allow firewood cutting in reserves (reserves in this alternative include considerably more land area than any other alternative), and would not allow removal of snags greater than 20 inches d.b.h..

Implementation of this alternative would reduce the loss of snag habitat due to hazard tree removal along roads in 10 watersheds in the short term (less than 20 years based on objectives). In the longer term (less than 50 years based on desired conditions) this alternative would result in road densities of equal to or less than 1 mile per square mile on 44 percent of the Forest, and equal to or less than 2 miles per square mile on 25 percent of the Forest.

Overall, this alternative would provide greater habitat for snag-dependent surrogate wildlife species than any other alternative, and would improve the viability outcomes for snag-dependent surrogate wildlife species.

#### **Climate Change**

Surrogate wildlife species associated with snag habitats include the pileated woodpecker, white-headed woodpecker, black-backed woodpecker, and Lewis's woodpecker, which are rated as medium

sensitivity to climate change, and the western bluebird as high sensitivity (CCSD 2013). The primary effect that is anticipated from climate change is the loss of habitat due to altered disturbance regimes. The emphasis of this alternative is on short-term habitat protection within an extended reserve system and relatively intensive timber management within the matrix, outside of the reserves. Because this alternative does not focus on landscape-scale restoration, the restoration of disturbance regimes would not be emphasized. Thus, habitat for snag-dependent surrogate wildlife is likely to be lost at an accelerated rate due to increased disturbances associated with climate change and loss of snag habitat in the matrix from relatively intense timber harvest. The increase in fire associated with climate change could create a short-term gain in snag habitat followed by a long-term (80 to 100 years, Harrod et al. 1998) reduction as snags attrition occurs.

#### **Cumulative Effects**

The adjacent Federal land managers include the Okanogan-Wenatchee National Forest to the west, the Idaho Panhandle National Forest to the east, and the Pend Oreille National Wildlife Refuge to the southeast. The Idaho Panhandle National Forest and the Pend Oreille National Wildlife Refuge have management plans that reduce the negative effects of roads on wildlife habitats and more rigorous snag requirements to contribute to the viability of snag-dependent wildlife (USFWS 2000, USFS 2015). The Okanogan-Wenatchee National Forest is in the process of revising their Forest Plan and current plan provides limited management direction to reduce the effects of roads on wildlife habitats and current required snag densities make limited contribution to the viability of surrogate wildlife species. The limited management direction for snag habitat on non-Federal lands adjacent to the planning area, places additional emphasis on providing for viability populations of snag-dependent wildlife species on Federal lands. Fuels reduction projects are possible on all land ownerships, in particular where they are near residences. These can be done in such a way that they restore wildlife habitat that has been affected by fire exclusion, but treatments can lead to the loss of snag habitat for safety reasons.

#### **Summary**

Implementation of this alternative would make a relatively high contribution to the viability of snag-dependent surrogate wildlife species. This determination is based on:

- 1) This alternative would focus on providing protections for snag habitat.
- 2) This alternative would make substantial reductions in the negative effects of roads on snag habitat.
- 3) This alternative provides management direction to protect snag habitat during vegetation management activities and snags from being cut for firewood outside designated areas.

#### **Riparian Habitats**

##### ***Surrogate Wildlife Species***

#### **Direct and Indirect Effects**

Forest activities that directly influence the quality and availability of habitat for riparian-dependent surrogate species include management of roads, recreation sites, grazing, and vegetation treatments that occur within riparian habitats.

In this alternative, management direction for watersheds and riparian habitats is consolidated into one consistent set of plan components that applies to the entire Colville National Forest. Standards and guidelines would limit management activities that are allowed to occur within riparian habitats.

14772 This alternative includes greater riparian management area widths along intermittent streams, lakes,  
14773 and ponds than in the areas previously covered by the INFISH forest plan amendment (USFS 1995).

14774 Implementation of this alternative would reduce the effects of roads on riparian habitat within  
14775 10 watersheds in the short term (less than 20 years based on objectives). In the longer term (less than  
14776 50 years based on desired conditions) this alternative would result in road densities of equal to or less  
14777 than 1 mile per square mile on 44 percent of the Forest, and equal to or less than 2 miles per square  
14778 mile on 25 percent of the Forest.

14779 Overall, this alternative would provide greater habitat protection for riparian-dependent surrogate  
14780 wildlife species than the no-action, proposed action, O and B alternatives, and similar to alternative  
14781 P. The viability outcomes for riparian-dependent surrogate wildlife species would be improved.

### 14782 **Climate Change**

14783 Some of the riparian-associated surrogate species are rated as high sensitivity to climate change  
14784 (CCSD 2013) and riparian habitats are considered vulnerable to the anticipated effects of climate  
14785 change (Lawler et al. 2014). The primary effect that is anticipated from climate change is the loss of  
14786 habitat and reduced connectivity of riparian habitats due to altered hydrologic and disturbance (fire)  
14787 regimes (Lawler et al. 2014).

14788 The emphasis of this alternative is on short-term habitat protection within a reserve system and  
14789 relatively intensive timber management within the matrix, outside of the reserves. Because this  
14790 alternative does not focus on landscape-scale restoration, the restoration of disturbances regimes  
14791 would not be emphasized. Thus, habitat for riparian-dependent surrogate wildlife is likely to be lost  
14792 at an accelerated rate due to increased disturbances associated with climate change and loss of  
14793 habitat in the matrix from relatively intense timber harvest.

### 14794 **Cumulative Effects**

14795 Adjacent Federal land managers include the Okanogan-Wenatchee National Forest to the west, the  
14796 Idaho Panhandle National Forest to the east, and the Pend Oreille National Wildlife Refuge to the  
14797 southeast. The Idaho Panhandle National Forest and the Pend Oreille National Wildlife Refuge have  
14798 management plans that reduce the negative effects of roads on wildlife habitats and to protect and  
14799 restore riparian habitats (USFWS 2000, USFS 2015). The Okanogan-Wenatchee National Forest is in  
14800 the process of revising their Forest Plan and current plan provides limited management direction to  
14801 reduce the effects of roads on wildlife habitat, and riparian habitat protections in the original Forest  
14802 Plan were found to be inadequate and were amended (PACFISH, INFISH-USFS 1995, ACS-USFS  
14803 1994).

14804 On private lands, Washington State Forestry Practices Act provides some limited protections for  
14805 riparian habitats. Management of priority watersheds emphasizes using an “all lands” approach to  
14806 enhance coordination across landowners and may enhance conditions for riparian associated wildlife  
14807 species. However, habitat protections for riparian habitats on Federal lands would help to mitigate  
14808 for the limited protections and cumulative effects that occur on private lands.

### 14809 **Summary**

14810 Implementation of this alternative would make a relatively high contribution to the viability of  
14811 riparian-dependent surrogate wildlife species. This determination is based on the following:

- 14812 1) This alternative would make substantial reductions in the negative effects that roads have on  
14813 riparian habitats.

14814 2) This alternative would consolidate and make more consistent management direction for  
14815 riparian habitats using Standards and providing larger management zones that existing  
14816 direction.

## 14817 Species of Management Interest

### 14818 *Deer and Elk*

#### 14819 **Direct and Indirect Effects**

14820 Forest management activities can influence deer and elk populations and habitat use. Vegetation  
14821 management activities may affect the distribution and abundance of cover and forage. Adequate  
14822 forage is particularly important during the summer and fall before the following birthing season  
14823 when this can have a positive effect on the condition pregnant females (Lenz 1997, Cook 1998, Cook  
14824 2002, Cook et al. 2004, Cook et al. 2005). The management of forest roads and trails can influence  
14825 how deer and elk use habitats, and influence the interactions between deer and elk (Rowland et al.  
14826 2005, Wisdom et al. 2005a, and b). Additionally, deer and elk can compete with domestic livestock  
14827 for both food resources (Findholt et al. 2005) and space (Coe et al. 2001, Coe et al. 2005). Thus, the  
14828 potential effects that vegetation management, road and trail management, and grazing management  
14829 can have on deer and elk habitats and population are evaluated for each of the alternatives.

14830 Under alternative R, cover and forage for deer and elk on winter ranges emphasizes the retention of  
14831 winter thermal cover. Considerable research has shown that the management of deer and elk winter  
14832 habitat should be less focused on the retention of thermal cover, and more focused on the availability  
14833 of forage on summer and fall habitats (see Cook et al. 2005 for a review). This alternative would not  
14834 incorporate the current science about the role of winter thermal cover in providing for deer and elk  
14835 populations.

14836 Much of the summer range for deer and elk under this alternative is managed either within a  
14837 wilderness reserve or within a LSOF habitat reserve network. This limits the opportunities to restore  
14838 forage conditions that contribute to elk productivity.

14839 This alternative would improve habitat effectiveness for deer and elk on summer and winter ranges.  
14840 The Selkirk Elk Herd has a moderate level of habitat effectiveness (low level of human influence) on  
14841 their winter ranges. Under this alternative, habitat effectiveness would be improved to high (a low  
14842 level of human influence). Overall, habitat effectiveness would be restored on approximately 48,000  
14843 acres of habitat on elk range under this alternative. The desired conditions for elk winter ranges  
14844 would be to have a low level of human influence (less than 30 percent of the winter range in the zone  
14845 of influence of an open road, motorized route, or designated ski trail).

14846 For deer, this alternative would result in a high level of habitat effectiveness (low level of human  
14847 influence) on 81 percent of the deer winter ranges, a moderate level of habitat effectiveness on  
14848 13 percent, and a low level of habitat effectiveness on 6 percent. The desired conditions for deer  
14849 winter ranges would be to have a low level of human influence (less than 30 percent of the winter  
14850 range in the zone of influence of an open road, motorized route, or designated ski trail).

14851 Current management direction for winter ranges is based on road density standards and would be  
14852 changed to use of the zone of influence (Rowland et al. 2005). This alternative includes more robust  
14853 range management direction to aid in the recovery of range conditions that are poor and slow to  
14854 recover from past grazing practices.

**Climate Change**

Deer and elk have a low level of sensitivity to the effects of climate change due to their ability to tolerate a relatively wide range of climatic conditions, their high mobility, and as habitat generalists (CCSD 2013). However, alternatives that restore landscape pattern and functions while reducing the effects of roads on deer and elk summer and winter habitats would provide more resilience deer and elk populations. This alternative provides consistent management direction for roads that would make considerable contributions to restore habitat effectiveness for deer and elk. However, this alternative does not emphasize landscape-scale forest restoration, considered an important climate change adaptation to restore landscape resiliency to disturbances and create more sustainable habitat conditions (Lawler et al. 2014).

**Cumulative Effects**

The historical cattle and sheep grazing that occurred on portions of the Forest severely degraded range conditions (Wissmar et al. 1994, Bunting et al. 2002). These conditions, combined with current domestic (cattle) and wild ungulate grazing (primarily elk and deer), have resulted maintenance or slow recovery of poor range conditions in some areas (Wissmar et al. 1994, Bunting et al. 2002). In turn, these poor range conditions have had negative effects on some important unique habitats such as riparian areas and meadows. This alternative would result in more rigorous grazing management direction that would help to address this situation.

Winter ranges for the deer and elk occur on Federal lands, adjacent Wildlife Management Areas managed by the State, and private lands. Elk herd management plans (WDFW 2001) provide guidance for elk management on state lands and make recommendations for elk management on Forestland. Management plans for deer include the White-tailed Deer Management Plan that covers the two management units on the Colville National Forest and provides direction to manage hunting to either maintain or increase white-tailed deer populations (WDFW 2010). A considerable amount of historical winter range for deer and elk is now in private land ownership or under the waters of Lake Roosevelt (created by the Grand Coulee dam). The cumulative effects of the existing management plans (state and Federal lands) would provide for the conditions that contribute to sustainable populations of deer and elk, while considering the effects of private land development.

**Summary**

The implementation of alternative R will make a moderate contribution to the conditions that support sustainable populations of deer and elk. This is based on the following:

- 1) This alternative would not address new science that recommends de-emphasizing the importance of winter thermal cover and increasing the emphasis on summer and fall forage quality and quantity. It would also limit management activities that increase forage productivity.
- 2) This alternative does provide consistent and effective direction on the management of roads and trails to restore habitat effectiveness on deer and elk summer and winter ranges.
- 3) This alternative would include more rigorous management direction to improve the conditions of key habitats, such as riparian areas and meadows that are in poor condition due to the cumulative effects of past grazing practices, and current domestic and wild ungulate grazing.

**Alternative P**

**Federally Listed Wildlife Species**

*Grizzly Bear*

**Direct and Indirect Effects**

Forest activities that influence the recovery of the grizzly bear include: human access that can displace bears from important seasonal habitats or increase the risk of bear-human interactions, disposal of livestock carcasses within range allotments to avoid attracting bears to a potential food source, and the storage of food and garbage at recreation sites to reduce the potential for bears to associate humans with food sources.

Management of grizzly bears does not vary between alternatives. Existing management direction provides standards for human access, disposal of livestock carcasses, and food and garbage storage within the Selkirk Grizzly Bear Recovery Area (IGBC 1998, USDA 1988, USFWS 1993, USDI 2001). Existing standards have largely been met and would continue to be followed.

**Climate Change**

Grizzly bears have been identified as having a low sensitivity to climate change because they are opportunistic, eat a diverse array of food resources, and are highly adaptable (Servheen and Cross 2010, CCSD 2013). Anticipated impacts may include changes in the timing of denning due to longer snow-free periods and reduced snowpack (Lawler et al. 2014) and changes in the availability of food sources (Servheen and Cross 2010). These changes may put bears at risk of negative human interactions for a longer period of time each year (Servheen and Cross 2010). This would make education, proper food and garbage storage, carcass disposal measures, and human access management that much more important.

**Cumulative Effects**

The primary reason for the low population of grizzly bears in the recovery zone is past persecution and human-caused mortality of bears. Legal protections are now in place to protect grizzly bears. Information/education programs, sanitation measures, and access management have and would continue to be used to aid in the recovery of grizzly bears in the Selkirk Recovery Area.

Past, present and reasonable foreseeable future actions that could affect grizzly bears include timber harvest and associated road construction, recreational activities that can cause disturbance to bear and create potential for human-bear conflicts, and human development that fragment grizzly bear habitat. Cumulative effects are evaluated across the Recovery Area by tracking activities within grizzly bear management units (GBMUs). Other land managers have adopted and are following similar management direction (IPNF 2015) and overall recovery is coordinated by the Selkirk Grizzly Bear Management Subcommittee. GBMUs that occur on the Colville National Forest include the LeClerc, Salmo-Priest, and Sullivan-Hughes. The contribution made on Federal lands to grizzly bear recovery would help to mitigate potential cumulative effects from off-forest activities. However, because this alternative does not address reducing the negative impacts of roads on wildlife habitats like in the proposed action and alternatives R and P, it does less to mitigate cumulative effects.

Border Patrol activities on the Forest have the potential to cause disturbance through use of roads or trails that are normally closed to motorized use. The exact extent or amount of the impact over the life of the plan is difficult to predict because many factors could influence Border Patrol activities.



14937 Fuels reduction projects are possible on all land ownerships, in particular where they are near  
14938 residences. These can be done in such a way that they restore wildlife habitat affected by fire  
14939 exclusion.

14940 Recreation is likely to increase on all land ownerships due to increasing demands. This would  
14941 increase human disturbance and result in NFS lands that have relatively low human disturbance (e.g.,  
14942 core areas) to become more important to wildlife such as grizzly bears.

14943 Black bear hunting on both sides of the international border within the Selkirk Recovery Area has the  
14944 potential to add cumulatively to the mortality of grizzly bears. Hunters that encounter grizzly bears  
14945 may mistakenly identify the bear, kill the bear in self-defense, or opportunistically poach the bear.  
14946 Human access management within the recovery area is key to reducing the risk of mortality to  
14947 grizzly bears from black bear hunting.

14948 On private lands, the presence of garbage, pet food, fruit trees, or other attractants may lure bears  
14949 into conflict situations. Bears that become habituated or a nuisance may lead to the bear being killed.

#### 14950 **Summary**

14951 This alternative would make a relatively high contribution to the recovery of grizzly bears in the  
14952 Selkirk Recovery Area and would result in a May Affect, Not Likely to Adversely Affect  
14953 determination. This is based on the existing management direction, followed in all alternatives, that  
14954 addresses:

- 14955 1) Human access management,
- 14956 2) Disposal of carcasses in range allotments that occur in the recovery area, and
- 14957 3) Proper storage of food, garbage and other attractants that may lead to human-bear  
14958 interactions.

#### 14959 *Canada Lynx*

##### 14960 **Direct and Indirect Effects**

14961 The forest management activities that influence the recovery and conservation of Canada lynx  
14962 include: vegetation management that affect lynx habitat components, winter recreation that  
14963 influences habitat connectivity and lynx habitat use, forest roads that can become sources of lynx  
14964 mortality at high traffic volumes and speeds, and grazing effects to riparian areas that provide habitat  
14965 for snowshoe hares, a primary food resource for lynx (ILBT 2013). The Interagency Lynx Biology  
14966 Team (ILBT 2013) developed conservation measures for core and secondary areas (USFWS 2005) to  
14967 address each of these forest management activities, and for planners to consult when revising forest  
14968 plans. These were used to evaluate the potential contribution of forest management alternatives to the  
14969 recovery of Canada lynx.

14970 Vegetation management activities (e.g., timber harvest, prescribed fire) affect the distribution of lynx  
14971 habitat components, can fragment habitats, and create sources of disturbance (ILBT 2013). As a  
14972 result, the ILBT (2013) identified risk factors associated with vegetation management and developed  
14973 conservation measures to address the risk factors. The conservation measures for vegetation  
14974 management apply to lynx core areas and include using the historic range of variability to mimic the  
14975 pattern and scale of natural disturbances and connectivity across the landscape, while considering the  
14976 future range climate change (ILBT 2013). A conservation measure focused on the restoration of  
14977 disturbance regimes in dry forests that occur in close proximity to lynx habitat to reduce the risk of  
14978 uncharacteristically severe and frequent fires reaching lynx habitat. Finally, conservation measures

14979 were recommended that limit the amount of vegetation management and the rate of habitat change  
14980 (e.g., acres treated/decade) within lynx analysis units. The implementation of this alternative includes  
14981 management direction to manage habitat for Canada lynx toward desired conditions that are based on  
14982 the historic range of variability (HRV). This means that habitats would be managed so that the  
14983 amount of habitat, patch sizes, and spatial arrangement would mimic conditions under which Canada  
14984 lynx evolved (Agee 2000).

14985 Winter recreation can influence how lynx use habitats (ILBT 2013). To minimize the potential of  
14986 negative effects from winter recreation, the ILBT (2013) developed conservation measures to reduce  
14987 effects. Conservation measures for winter recreation in lynx core areas included reducing effects on  
14988 habitat connectivity and discouraging expansion of over-the-snow routes that may influence lynx  
14989 habitat use (ILBT 2013). There is management direction in this alternative that limits over-the-snow  
14990 winter recreational activities in lynx habitat.

14991 The conservation measures for forest roads in lynx core areas include avoiding road reconstruction  
14992 or upgrades that occur in lynx habitat and would result in increased traffic speeds or volumes (ILBT  
14993 2013). These measures would reduce the potential for vehicular traffic to result in a source of  
14994 mortality to lynx. This alternative includes management direction to limit road reconstruction and  
14995 upgrades in lynx habitat that would increase traffic volume or speed.

14996 The conservation measures for grazing in lynx core areas include management of riparian areas to  
14997 assure adequate habitat for snowshoe hares, the primary prey species for Canada lynx (ILBT 2013).  
14998 This alternative includes management direction for grazing in riparian management areas specific to  
14999 providing habitat for snowshoe hares.

15000 Alternative P would provide management direction to address the direct and indirect effects of forest  
15001 management activities on the recovery of Canada lynx. Alternative P would provide more protections  
15002 for Canada lynx than any of the other alternatives, and would make a substantial contribution to the  
15003 recovery of Canada lynx.

#### 15004 **Climate Change**

15005 The potential effects of climate change on Canada lynx identified by the Interagency Lynx Biology  
15006 Team (2013) included: (1) an upward shift in elevation or latitudinal distribution of lynx and prey,  
15007 (2) a decrease in the amount of habitat and population size from reduced snow persistence and  
15008 increased disturbance events (e.g., fires), (3) changes in demographic rates, such as survival and  
15009 reproduction, and (4) changes in predator-prey relationships.

15010 Climate change adaptations to address these effects include restoration of landscape-scale  
15011 disturbance regimes to better mimic natural patterns and processes (Spies et al. 2010, Gaines et al.  
15012 2012), and maintaining or restoring habitat connectivity to allow Canada lynx to adjust their ranges  
15013 to changing conditions (Heller and Zavaleta 2009, ILBT 2013, Squires et al. 2013). There is  
15014 management direction in this alternative to implement these climate change adaptations through the  
15015 emphasis on dynamic-landscape restoration, and the restoration of conditions that would enhance  
15016 connectivity of habitats (see Habitat Connectivity sections).

#### 15017 **Cumulative Effects**

15018 Past, present, and reasonably foreseeable actions that affect lynx habitat include timber harvest and  
15019 fuels reduction, recreation, human development, and grazing on private and public lands. In addition,  
15020 legal trapping of lynx, timber harvest, oil and gas development, mining and human access in British  
15021 Columbia have and would continue to affect Canada lynx habitat.

15022 Past vegetation management and large-scale fires on the Forest within lynx habitat has resulted in a  
15023 distribution and amount of successional stages (early, mid, late) that are outside the HRV. This  
15024 alternative would result in vegetation management activities that would restore lynx habitats toward  
15025 the HRV, providing conditions more similar to those under which lynx evolved.

15026 Border Patrol activities on the Forest have the potential to cause disturbance through use of roads or  
15027 trails that are normally closed to motorized use. The exact extent or amount of the impact over the  
15028 life of the plan is difficult to predict because many factors could influence Border Patrol activities.

15029 Grazing has occurred and would continue to take place on off-forest lands potentially impacting  
15030 deciduous or riparian habitats for lynx prey species.

15031 Fuels reduction projects are possible on all land ownerships, in particular where they are near  
15032 residences. These can be done in such a way that they restore wildlife habitat affected by fire  
15033 exclusion.

15034 Recreation is likely to increase on all land ownerships due to increasing demands. This would  
15035 increase human disturbance and result in NFS lands that have relatively low human disturbance to  
15036 become more important to wildlife.

15037 All Federal lands within Canada lynx core and secondary areas would use the Lynx Conservation  
15038 Assessment and Strategy (LCAS) (ILBT 2013) as current science to guide project-level consultation  
15039 and land management planning. The North Cascades National Park Complex recently revised their  
15040 management plan to include the LCAS (NPS 2012). The Idaho Panhandle National Forest land  
15041 management plan was recently revised to address the conservation measures identified in the LCAS  
15042 (USFS 2015). The conservation of lynx on WDNR lands is guided by the Department of Natural  
15043 Resources Lynx Habitat Management Plan (WDNR 1996, updated in 2002). The management plan  
15044 for the Pend Oreille National Wildlife Refuge provides conservation measures to contribute to the  
15045 recovery and viability of Canada lynx (USFWS 2000). Collectively, these management plans have  
15046 addressed many of the conservation measures identified for Canada lynx (ILBT 2013) and would  
15047 help mitigate potential cumulative effects that may occur from off-forest activities. In addition, no  
15048 critical habitat was identified on the Colville National Forest or on adjacent lands (USFWS 2009).

15049 In Canada, timber harvesting, oil and gas development, coal mining, and the proliferation of human  
15050 access associated with these industries, have and would continue to affect lynx habitat. Legal  
15051 trapping occurs north of the Forest in Canada and could reduce the potential for lynx to disperse into  
15052 the lynx habitat on the Forest. Trapping is not legal in Idaho, Montana, or Washington.

### 15053 **Summary**

15054 Alternative P would make a relatively high contribution to the recovery of the Canada lynx in both  
15055 the short (less than 20 years) and long (less than 50 years) term, and result in a May Effect, Not  
15056 Likely to Adversely Affect determination. This is because of the following:

- 15057 1) This alternative incorporates the best available science and conservation measures identified  
15058 in the recent version of the Lynx Conservation Assessment and Strategy (ILBT 2013), and  
15059 the USFWS Recovery Outline (USFWS 2005);
- 15060 2) This alternative would implement recommended climate change adaptations by focusing on  
15061 the restoration of forest disturbance regimes and resiliency, and reducing the impacts of  
15062 roads on habitat connectivity; and

15063 3) This alternative addresses previous findings that existing management plans provided  
15064 inadequate regulatory mechanisms to prevent the listing of lynx as a federally threatened  
15065 species (USFWS 2003).

## 15066 Late-successional and Old Forest Habitats (Federally Listed Species)

### 15067 *Woodland Caribou*

#### 15068 **Direct and Indirect Effects**

15069 The forest management activities that can influence the recovery and viability of woodland caribou  
15070 include: (1) Vegetation management and natural disturbances affect the amount and connectivity of  
15071 old growth forests of Engelmann spruce/subalpine fir and western redcedar/western hemlock.  
15072 (2) Human access that can increase the potential for poaching and cause disturbance to caribou  
15073 during the critical winter period. These effects were used to evaluate the potential contribution of  
15074 each alternative to the recovery of woodland caribou.

15075 This alternative would implement new science, recommendations from the Biological Opinion  
15076 issued in 2001 (USFWS 2001) on the 1988 forest plan (USFS 1988), and address the critical habitat  
15077 designation (USFWS 2012). Vegetation management would be focused on restoring late-  
15078 successional and old forest habitats based the historic range of variability. The desired conditions  
15079 would be for the amount, spatial arrangement, and connectivity of caribou habitat to mimic natural  
15080 patterns and processes.

15081 A term and condition of the 2001 Biological Opinion was that the Forest develop a winter recreation  
15082 strategy that protects important winter habitats for caribou while providing some level of winter  
15083 recreation access. This strategy was developed (USFS 2003) and is fully integrated into this  
15084 alternative. This strategy includes information and education about the effects of winter recreation on  
15085 wildlife, monitoring and enforcement of areas closed to over-the-snow activities, and limitations on  
15086 permitted over-the-snow activities. Collectively, these actions have reduced the impacts of winter  
15087 recreation to caribou habitat while providing recreation opportunities in areas and at the time of the  
15088 winter season when effects to caribou are minimal. In addition to winter recreation, this alternative  
15089 emphasizes substantially reducing the negative effects of forest roads on wildlife habitat.

#### 15090 **Climate Change**

15091 Climate change would likely alter the distribution and abundance of suitable caribou habitat, and  
15092 would also change snow depths and persistence, which affect seasonal movements of mountain  
15093 caribou (WDFW 2012). The potential effects of climate change depend on the interaction, not only  
15094 of seasonal temperatures and snowfall patterns, but also occurrence of wildfires, outbreaks of forest  
15095 insects, and diseases (Mountain Caribou Science Team 2005). Management adaptations to address  
15096 the effects of climate change include a focus on forest restoration and reducing non-climatic factors  
15097 that affect wildlife populations (e.g., restoring habitat effectiveness). This alternative would  
15098 implement these adaptations.

#### 15099 **Cumulative Effects**

15100 The caribou recovery area is 1,477 square miles in size and includes the Colville National Forest,  
15101 Idaho Panhandle National Forest, Idaho Department of Lands, and British Columbia. About 47  
15102 percent of the recovery area is in the United States and 53 percent in British Columbia. The Idaho  
15103 Panhandle National Forest recently revised the forest plan to address habitat and risk factors  
15104 identified in the caribou recovery plan and critical habitat (USFS 2015). The caribou recovery team  
15105 works cooperatively to address cumulative effects on woodland caribou.

15106 Past activities on the Forest have impacted caribou habitat. Over-the-snow motorized use, prior to  
15107 the implementation of the Winter Recreation Strategy (USFS 2003), may have caused disturbance to  
15108 caribou. The alternative would continue with implementation of the Winter Recreation Strategy,  
15109 limiting the cumulative effects on caribou.

15110 Past vegetation management and disturbances on the Forest have resulted in the distribution and  
15111 arrangement of successional stages (early, mid, late) that are outside the HRV. Presently, more of the  
15112 landscape is in med-successional and less in late-successional habitats compared to HRV. This  
15113 alternative would manage habitats toward HRV resulting in a distribution and amount of  
15114 successional stages that better mimic conditions under which caribou evolved, and better mitigate for  
15115 the cumulative effects of off-forest timber harvest.

15116 Border Patrol activities on the Forest have the potential to cause disturbance through use of roads or  
15117 trails that are normally closed to motorized use. The exact extent or amount of the impact over the  
15118 life of the plan is difficult to predict because many factors could influence Border Patrol activities.

15119 Fuels reduction projects are possible on all land ownerships, in particular where they are near  
15120 residences. These can be done in such a way that they restore wildlife habitat that has been affected  
15121 by fire exclusion.

15122 Recreation is likely to increase on all land ownerships due to increasing demands. This would  
15123 increase human disturbance and result in NFS lands that have relatively low human disturbance to  
15124 become more important to wildlife such as caribou.

15125 Big game hunting continues on both sides of the U.S./Canada border. Encounters with hunters may  
15126 result in caribou mortality as a result of mistaken identification. Legal harvest of caribou by Treaty  
15127 Indians does occur, but with few statistics on the number of animals taken it is difficult to evaluate  
15128 the influence of this on the caribou population. Fatal collisions with vehicles occur on open roads in  
15129 caribou habitat and are likely to continue. Predation by mountain lions, wolves and other predators  
15130 would continue, with the effect on the caribou population dependent on big game populations,  
15131 predator populations, and a variety of other factors.

15132 One important factor is how the Canadian officials decide to manage this herd. In the British  
15133 Columbia portion of the recovery area, human activities that would continue to impact caribou  
15134 habitat include gas, powerline, and international border corridors, recreation activities, timber  
15135 harvest, and highways.

### 15136 **Summary**

15137 Implementation of this alternative would have a May Affect, not Likely to Adversely Affect  
15138 determination for woodland caribou. It would make a relatively high contribution to the recovery of  
15139 woodland caribou. The reasons for this determination are:

- 15140 1) This alternative would address new science and risk factors identified in the recovery plan  
15141 and critical habitat.
- 15142 2) This alternative would formally adopt the winter recreation strategy for caribou habitat that  
15143 was a Term and Condition of the 2001 Biological Opinion.
- 15144 3) This alternative emphasizes the protection and restoration of caribou habitat, better  
15145 addressing expected climate change effects and enhancing resiliency.

*Surrogate Wildlife Species*

**Direct and Indirect Effects**

Forest activities that directly influence the viability of late-successional and old forest (LSOF) dependent surrogate species include: the loss of LSOF habitat from fire (Healy et al. 2008, Davis et al. 2011), vegetation treatments (e.g., timber harvest, thinning, prescribed fire) that affect forest structure (e.g., canopy closure, snags, downed wood)(Healy et al. 2008, Wisdom et al. 2008, Davis et al. 2011), management of roads that influence habitat effectiveness (Gaines et al. 2003), and protection of riparian areas which are an important element of LSOF habitats for some species.

The dynamic landscape restoration approach emphasized in this alternative would result in landscapes, including disturbance regimes, that are more resilient to climate change through the application of strategically located restoration treatments in priority locations (Noss et al. 2006, Spies et al. 2006, Gaines et al. 2010, Franklin and Johnson 2012). By strategically locating restoration treatments, landscape-scale fire behavior may be altered to be more similar to native disturbance regimes and the risk of loss of LSOF habitat to uncharacteristically severe fires may be reduced (Finney 2001, Finney et al. 2006, Ager et al. 2007, Lehmkuhl et al. 2007). Landscape restoration through the implementation of this alternative would include a network of dense, multi-layered habitat patches tailored to specific conditions and surrogate species (Gaines et al. 2010, Franklin and Johnson 2012). The amount, patch size, and spatial arrangement of dense, multi-layered habitat would be managed within or toward the historic range of variation for each landscape (e.g., watershed) (Hessburg et al. 2013). In addition, implementation of this alternative would include greater use of managed fire to achieve desired conditions for restoration and resiliency (Noss et al. 2006, Franklin and Johnson 2012).

For some LSOF surrogate species, such as the white-headed woodpecker, conservation assessments have recommended the use of stand-level treatments to restore habitat because current habitat levels are well below historic levels (Mellen-McLean et al. 2013, Gaines et al. 2015). The effects of restoration treatments on birds has been studied and shown that treatments that retain large trees and promote spatial variability can have positive effects on surrogate bird species, including the white-headed woodpecker (Gaines et al. 2007, Gaines et al. 2010b). The implementation of this alternative would result in approximately 5,000 acres per year of restorative treatments within dry and mesic forests, creating favorable conditions for white-headed woodpeckers.

Implementation of this alternative includes plan components for several key elements of LSOF habitat. For instance, desired conditions for snag habitat address the potential loss of snags in vegetation management treatments. This alternative would also require that firewood cutting occur in designated areas only, and not allow removal of snags greater than 20 inches d.b.h. outside of designated areas. In addition, this alternative provides for the retention and restoration of late-successional forest structure, which is currently lacking in most forested landscapes (Hessburg et al. 1999).

Implementation of this alternative would reduce the negative effects of roads on LSOF habitats within 10 watersheds in the short term (less than 20 years based on Objectives) because roads would be closed (to meet other management objectives). In the longer term (less than 50 years based on desired conditions) this alternative would result in road densities of equal to or less than 1 mile per square mile on 23 percent of the Forest, and equal to or less than 2 miles per square mile on 48 percent of the Forest, considerably reducing the negative effects of roads on LSOF habitats.

Overall, this alternative would provide greater protection for LSOF habitats than the no-action, proposed action, B, O, and R alternatives. This alternative would improve the viability outcomes for surrogate species that are dependent on LSOF habitats in both the short (less than 20 years) and long (less than 50 years) time periods as desired conditions are achieved.

### **Climate Change**

The sensitivity of LSOF associated surrogate wildlife species to the effects of climate change were identified as medium for pileated woodpecker, and high for northern goshawk and American marten (CCSD 2013). The primary effect of climate change is the loss of LSOF habitats due to altered disturbance regimes (CCSD 2013, Lawler et al. 2014).

Since the mid-1980s, the size and intensity of large wildfires in the western United States have increased markedly (Westerling et al. 2006), due, in part, to a reduction in fuel moisture driven by increased temperature and lower snowpack. Increases in fire risk and severity have been also been driven, in part, by increased fuel loads because of fire suppression practices used over the last century (McKenzie et al. 2004). Predicted increases in spring and summer temperature identified in many climate change models would exacerbate the frequency and intensity of disturbances such as fire (McKenzie et al. 2004, Wotton and Flannigan 1993) and defoliation caused by forest insects (Littell et al. 2009). In the interior Columbia Basin, Littell et al. (2009) predicted that the area burned is likely to double or even triple by 2050. Climate-driven changes in fire regimes would likely be the dominant driver of changes to forests and LSOF habitats in the western United States over the next century (McKenzie et al. 2004).

The dynamic landscape restoration approach that is emphasized in this alternative represents the implementation of an adaptive strategy to create landscapes more resilient to climate change (Spies et al. 2010, Gaines et al. 2012) and to maintain LSOF habitats (Lawler et al. 2014). The emphasis on restoration of resiliency would result in landscapes, including disturbance regimes that are more resilient to climate change through the application of strategically located restoration treatments in priority locations (Noss et al. 2006, Spies et al. 2006, Gaines et al. 2010, Franklin and Johnson 2012). By strategically locating restoration treatments, landscape-scale fire behavior can be altered to be more similar to native disturbance regimes and the risk of loss of LSOF habitat to uncharacteristically severe fires can be reduced (Finney 2001, Finney et al. 2006, Ager et al. 2007, Lehmkuhl et al. 2007). In addition, implementation of this alternative would include greater use of managed fire to achieve desired conditions for restoration and resiliency (Noss et al. 2006, Franklin and Johnson 2012).

### **Cumulative Effects**

The adjacent Federal land managers include the Okanogan-Wenatchee National Forest to the west, the Idaho Panhandle National Forest to the east, and the Pend Oreille National Wildlife Refuge to the southeast. The Idaho Panhandle National Forest and the Pend Oreille National Wildlife Refuge have management plans that reduce the negative effects of roads on wildlife habitats and to protect and restore LSOF habitats (USFWS 2000, USFS 2015). The Okanogan-Wenatchee National Forest is in the process of revising their Forest Plan and the current plan provides limited management direction to reduce the effects of roads on wildlife habitat, and LSOF habitat protections in the original Forest Plan were found to be inadequate and were amended by the Eastside Screens (USFS 1995).

Past vegetation management and disturbances on the Forest have resulted in the distribution and arrangement of successional stages (early, mid, late) that are outside the HRV. Presently, more of the landscape is in mid-successional and less in late-successional habitats compared to HRV. This alternative would manage habitats toward HRV resulting in a distribution and amount of

15234 successional stages that better mimic conditions under which caribou evolved, and better mitigate for  
15235 the cumulative effects of off-forest timber harvest.

15236 Border Patrol activities on the Forest have the potential to cause disturbance through use of roads or  
15237 trails that are normally closed to motorized use. The exact extent or amount of the impact over the  
15238 life of the plan is difficult to predict because many factors could influence Border Patrol activities.

15239 Fuels reduction projects are possible on all land ownerships, in particular where they are near  
15240 residences. These can be done in such a way that they restore wildlife habitat that has been affected  
15241 by fire exclusion.

#### 15242 **Summary**

15243 Implementation of this alternative would make a relatively high contribution to the viability of LSOF  
15244 dependent surrogate wildlife species. The high contribution would be due to the following  
15245 components of this alternative:

- 15246 1) Emphasis on landscape restoration to enhance landscape resiliency,
- 15247 2) The conservation of LSOF habitat across whole landscape (not just in reserves),
- 15248 3) The protection and restoration of key elements of LSOF habitat such as late-successional  
15249 structure and riparian areas, and
- 15250 4) The emphasis on restoring habitat effectiveness by substantially reducing the negative  
15251 effects of roads on LSOF habitats.

#### 15252 **Motorized Recreation and Road Access**

##### 15253 *Surrogate Wildlife Species*

#### 15254 **Direct and Indirect Effects**

15255 Motorized recreation and the use of forest roads influence the viability of surrogate wildlife species.  
15256 These potential effects include displacement from key habitats, disturbance during critical time  
15257 periods, and the risk of mortality caused by collisions with vehicles (see Wisdom et al. 2000 and  
15258 Gaines et al. 2003 for a complete list of road and trail associated factors that influence wildlife). The  
15259 effects of motorized recreation and roads can occur during the non-winter period or during the winter  
15260 period when snowmobiling or ski-trail grooming occurs.

15261 Implementation of this alternative would reduce the negative effects of roads on surrogate species  
15262 habitats in 10 watersheds in the short term (less than 20 years based on objectives). In the longer  
15263 term (less than 50 years based on desired conditions) this alternative would result in road densities of  
15264 equal to or less than 1 mile per square mile on 23 percent of the Forest, and equal to or less than  
15265 2 miles per square mile on 48 percent of the Forest. The remainder of the Forest would remain  
15266 unroaded. Habitat effectiveness (as affected by roads) for surrogate wildlife species would be  
15267 improved from a current low to moderate level of habitat effectiveness in 26 watersheds to a  
15268 moderate level of habitat effectiveness in 17 watersheds and a high level of habitat effectiveness in 9  
15269 watersheds as desired conditions for road access are achieved.

15270 Overall, this alternative would provide greater habitat effectiveness for surrogate wildlife species  
15271 than the no-action, proposed action, B and O alternatives, and somewhat less than alternative R. This  
15272 alternative would improve the viability outcomes for surrogate wildlife species whose habitats are  
15273 influenced by roads and motorized trails.



**Climate Change**

The sensitivity of surrogate wildlife species used to assess the effects of roads and motorized recreation is rated as high for Canada lynx and wolverine (CCSD 2013). An important climate change adaptation that has been recommended for wildlife is to reduce the negative effects of non-climate related stressors such as the effects of roads (and trails) on habitat (Gaines et al. 2012, Lawler et al. 2014). By reducing the negative effects of roads, habitats (especially riparian and wetland habitats) can become more resilient to the effects of climate change, and habitat connectivity can be restored allowing wildlife to adjust their ranges as conditions change. The implementation of this alternative includes management direction to make substantial improvement to habitat effectiveness for surrogate wildlife by reducing road impacts and densities.

**Cumulative Effects**

The adjacent Federal land managers include the Okanogan-Wenatchee National Forest to the west, the Idaho Panhandle National Forest to the east, and the Pend Oreille National Wildlife Refuge to the southeast. The Idaho Panhandle National Forest and the Pend Oreille National Wildlife Refuge have management plans that reduce the negative impacts of roads on wildlife habitats and restore habitat effectiveness (USFWS 2000, USFS 2015). The Okanogan-Wenatchee National Forest is in the process of revising their Forest Plan and the current plan provides limited management direction to reduce the effects of roads on wildlife habitat, mostly focused on big-game species.

The limited management direction in current Forest Plans to reduce the negative effects of roads on wildlife and continued development of private lands (located mostly in north-south valley bottoms that bisect the Forest) means that management of roads and motorized trails on Federal lands is even more important to the viability of surrogate wildlife species.

Border Patrol activities on the Forest have the potential to cause disturbance through use of roads or trails that are normally closed to motorized use. The exact extent or amount of the impact over the life of the plan is difficult to predict because many factors could influence Border Patrol activities. Recreation is likely to increase on all land ownerships due to increasing demands. This would increase human disturbance and result in NFS lands that have relatively low human disturbance to become more important to wildlife.

**Summary**

Implementation of this alternative would make a relatively high contribution to the viability of surrogate wildlife species whose habitats are influenced by motorized access. This would occur because:

- 1) This alternative includes management direction to substantially reduce the impact of roads on habitat effectiveness for surrogate wildlife species, and
- 2) This alternative does not alter the current impacts that summer and winter motorized trails have on habitat effectiveness for surrogate wildlife species.

**Livestock Grazing**

***Surrogate Wildlife Species***

**Direct and Indirect Effects**

Grazing can influence habitats of surrogate wildlife species by removing key habitat elements (e.g., dense shrubs for MacGillivray's warbler and fox sparrow), especially in riparian habitats; alter disturbance regimes that maintain habitat structure (e.g., frequent fires in dry forests and grasslands

15316 keep open canopy for western bluebird); and influence the availability of important prey items (e.g.,  
15317 squirrels for golden eagles). To address the potential effects on surrogate wildlife species, the  
15318 management direction regarding grazing in riparian habitat and upland habitats for each alternative  
15319 was assessed.

15320 This alternative would include standards as management direction for riparian habitats. Presently,  
15321 many riparian habitats are in poor condition due to the effects of past and current grazing. The plan  
15322 direction for this alternative would make a considerable improvement to the grazing impacts of  
15323 livestock and allow riparian habitats to recover.

15324 This alternative includes ecologically based desired conditions for upland non-forest habitats (e.g.,  
15325 rangeland and alpine habitats) and standards to protect unique habitats. This alternative would not  
15326 alter the number of livestock, the intensity of grazing, or the amount of area grazed. Presently, 73  
15327 percent of the Forest is in a livestock allotment and animal unit months (AUMs) average about  
15328 25,000 per year. However, management direction would result in adjustments to the distribution of  
15329 cattle and the intensity of grazing within specific habitats, such as unique habitats. This alternative  
15330 has a high potential to improve the viability outcomes for surrogate species that are influenced by  
15331 grazing.

#### 15332 **Climate Change**

15333 Habitats that are particularly sensitive to the effects of climate change include riparian areas  
15334 (including wetlands) and alpine areas (Lawler et al. 2014). A management adaptation to make these  
15335 habitats more resilient to climate change is to reduce the effects of non-climatic stressors (e.g., roads,  
15336 intense grazing, etc.) (Lawler et al. 2014). This alternative includes management direction that would  
15337 help to restore the resiliency of habitats that are sensitive to climate change.

#### 15338 **Cumulative Effects**

15339 Grazing occurs on nearby private, state, tribal, and Federal lands. Where grazing is allowed on the  
15340 adjacent Okanogan-Wenatchee National Forest and Idaho Panhandle National Forest, it is managed  
15341 to accommodate other public land uses, such as contributing to the viability of surrogate wildlife  
15342 species. On the adjacent Little Pend Oreille Wildlife Refuge, livestock grazing was reduced over  
15343 time to allow restoration of riparian habitats and is currently only used to achieve specific wildlife  
15344 habitat objectives (USFWS 2000). Grazing on non-Federal lands increases the need to provide for  
15345 wildlife habitats on Federal lands that contribute to the viability of surrogate wildlife species. This  
15346 alternative includes management direction for some key habitats that would better account for the  
15347 cumulative effects of grazing on wildlife habitats.

#### 15348 **Summary**

15349 Implementation of this alternative would make a relatively high contribution to viability for  
15350 surrogate wildlife species that are influenced by domestic grazing. This determination is based on:

- 15351 1) This alternative includes management direction (including standards) for riparian habitat that  
15352 would reduce the negative effects of grazing and improve riparian habitat condition.
- 15353 2) This alternative would not change the number or grazing intensity, but would alter the  
15354 distribution of livestock to protect some unique habitats.
- 15355 3) This alternative would include management direction that could make habitats that are  
15356 sensitive to the effects of climate change more resilient.

15357 **Habitat Connectivity**

15358 *Surrogate Wildlife Species*

15359 **Direct and Indirect Effects**

15360 There are a number of forest management activities that influence habitat connectivity for surrogate  
15361 wildlife species. These include: the amount, patch sizes, and spatial arrangement of suitable habitats;  
15362 location and density of motorized travel routes, especially in relation to riparian and LSOF habitats.  
15363 These are addressed in the evaluation of how forest management alternatives would affect habitat  
15364 connectivity for surrogate wildlife species.

15365 The implementation of this alternative includes management direction to manage wildlife habitats  
15366 for surrogate wildlife species toward desired conditions that are based on the historic range of  
15367 variability. This means that habitats for a wide-range of species would be managed so that the  
15368 amount of habitat, patch sizes, and spatial arrangement would mimic conditions under which those  
15369 species evolved (Hessburg et al. 1999, Hessburg et al. 2013).

15370 In this alternative, management direction for riparian habitats is consolidated into one consistent set  
15371 of plan components that applies to the entire Colville National Forest, and would be consistent with  
15372 other national forests in Region 6. Standards and guidelines would limit management activities that  
15373 are allowed to occur within riparian habitats and influence habitat connectivity. This alternative  
15374 includes greater riparian management area widths along intermittent streams, lakes, and ponds than  
15375 in the areas previously covered by the INFISH forest plan amendment (USFS 1995).

15376 Implementation of this alternative would reduce the negative effects of roads on habitat connectivity  
15377 for surrogate wildlife species within 10 watersheds in the short term (less than 20 years based on  
15378 objectives) because roads would be closed (to meet other management objectives). In the longer term  
15379 (less than 50 years based on desired conditions) this alternative would result in road densities of  
15380 equal to or less than 1 mile per square mile on 23 percent of the Forest, and equal to or less than 2  
15381 miles per square mile on 48 percent of the Forest, considerably reducing the negative effects of roads  
15382 on habitat connectivity.

15383 **Climate Change**

15384 Maintaining and restoring ecological connectivity is the most oft-cited climate adaptation strategy  
15385 for biodiversity conservation (Heller and Zavaleta 2009, Opham and Wascher 2004, Parmesan 2006,  
15386 Spies et al. 2010) and has been identified as an important adaptation strategy for wildlife in  
15387 northeastern Washington (Gaines et al. 2012). This is because species' range shifts have been the  
15388 primary biological response to past episodes of climatic change, yet widespread anthropogenic  
15389 barriers to movement would now challenge species' ability to respond (Price 2002, Thomas and  
15390 Lennon 1999, Wormworth and Mallon 2006). The implementation of this alternative addresses  
15391 climate change adaptations that are recommended to maintain or restore habitat connectivity for  
15392 surrogate wildlife species.

15393 **Cumulative Effects**

15394 Past, present, and reasonably foreseeable human developments and transportation infrastructure,  
15395 along with land ownership patterns, create cumulative impacts that limit options to conserve and  
15396 restore regional connectivity. Regional habitat connectivity has been evaluated for a variety of  
15397 wildlife species, including the surrogate wildlife species used to evaluate connectivity in this  
15398 planning area (Singleton et al. 2002, WWHCWG 2010). These assessments have shown the  
15399 importance of the Colville National Forest in providing stepping-stone habitats between the

Cascades and Selkirk Mountains (Singleton et al. 2002, WWHCWG 2010, Proctor et al. 2015). Connectivity from the Cascades to the Kettle Range to the Selkirk Mountains is interrupted by transportation corridors and human developments associated with the Okanogan, Upper Columbia, and Pend Oreille river valleys (Singleton et al. 2002, WWHCWG 2010). Additionally, connectivity planning in southern British Columbia identified linkage area that could greatly enhance wildlife movements between the Selkirk Mountains and the Purcell Mountains (Apps et al. 2007, Proctor et al. 2015).

Reducing the direct and indirect effects of roads on wildlife habitats would contribute to the maintenance and restoration of habitat connectivity, including cumulative effects. Border Patrol activities on the Forest have the potential to cause disturbance through use of roads or trails that are normally closed to motorized use. The exact extent or amount of the impact over the life of the plan is difficult to predict because many factors could influence Border Patrol activities. Recreation is likely to increase on all land ownerships due to increasing demands. This would increase human disturbance and result in NFS lands that have relatively low human disturbance to become more important to wildlife.

#### **Summary**

Implementation of this alternative would make a relatively high contribution to providing habitat connectivity that is important for the viability of surrogate wildlife species. This conclusion is based on the following:

- 1) Habitat amount, patch sizes, and spatial arrangement would be managed toward desired conditions based on the historic range of variability, providing conditions similar to those under which surrogate wildlife species evolved.
- 2) The negative effects of roads on habitat connectivity, including riparian and LSOF habitats, would be considerably reduced.

#### **Snag Habitat**

##### *Surrogate Wildlife Species*

#### **Direct and Indirect Effects**

Forest activities that directly influence the availability of habitat for snag-dependent surrogate species include firewood cutting (Bate et al. 2007, Hollenbeck et al. 2013), the loss of snag habitat along roads and at recreation sites from hazard tree reduction (Bate et al. 2007, Hollenbeck et al. 2013, Wisdom et al. 2008), and removal of snags during timber harvest for safety reasons (Wisdom et al. 2008).

Implementation of this alternative includes management direction for snag habitat to address the potential loss of habitat in timber sale operations, would require that firewood cutting occur in designated areas only, and would not allow removal of snags greater than 20 inches d.b.h. outside of designated areas.

Implementation of this alternative would decrease snag habitat loss due to hazard tree removal along roads in 10 watersheds in the short term (less than 20 years based on Objectives) due to reduced road densities. In the longer term (less than 50 years based on desired conditions) this alternative would result in road densities of equal to or less than 1 mile per square mile on 23 percent of the Forest, and equal to or less than 2 miles per square mile on 48 percent of the Forest. Overall, this alternative

would provide greater habitat for snag-dependent surrogate wildlife than the no-action, proposed action, B and O alternatives, and somewhat less than alternative R.

### **Climate Change**

Surrogate wildlife species associated with snag habitat included the pileated woodpecker, white-headed woodpecker, black-backed woodpecker, and Lewis's woodpecker, which are rated as medium sensitivity to climate change, and the western bluebird as high sensitivity (CCSD 2013). The primary effect that is anticipated from climate change is the loss of habitat due to altered disturbance regimes. The dynamic-landscape restoration approach that is emphasized in this alternative would result in landscapes, including disturbance regimes, that are more resilient to climate change through the application of strategically located restoration treatments in priority locations, and greater use of managed fire to achieve desired conditions for landscape restoration and resiliency.

### **Cumulative Effects**

The adjacent Federal land managers include the Okanogan-Wenatchee National Forest to the west, the Idaho Panhandle National Forest to the east, and the Pend Oreille National Wildlife Refuge to the southeast. The Idaho Panhandle National Forest and the Pend Oreille National Wildlife Refuge have management plans that reduce the negative effects of roads on wildlife habitats and more rigorous snag requirements to contribute to the viability of snag-dependent wildlife (USFWS 2000, USFS 2015). The Okanogan-Wenatchee National Forest is in the process of revising their Forest Plan and current plan provides limited management direction to reduce the effects of roads on wildlife habitats and current required snag densities make limited contribution to the viability of surrogate wildlife species. The limited management direction for snag habitat on non-Federal lands adjacent to the planning area, places additional emphasis on providing for viable populations of snag-dependent wildlife species on Federal lands. Fuels reduction projects are possible on all land ownerships, in particular where they are near residences. These can be done in such a way that they restore wildlife habitat that has been affected by fire exclusion, but treatments can lead to the loss of snag habitat for safety reasons.

### **Summary**

Implementation of this alternative would make a relatively high contribution to the viability of snag-dependent surrogate wildlife species. This determination is based on:

- 1) This alternative would focus on landscape restoration of habitats and disturbance regimes that directly influence the availability and condition of snag habitat.
- 2) This alternative would make substantial reductions in the negative effects of roads on snag habitat.
- 3) This alternative provides management direction to protect snag habitat during vegetation management activities and from being cut for firewood.

### **Riparian Habitats**

#### ***Surrogate Wildlife Species***

### **Direct and Indirect Effects**

Forest activities that directly influence the quality and availability of habitat for riparian-dependent surrogate species include management of roads, recreation sites, and vegetation treatments that occur within riparian habitats.

In this alternative, management direction for watersheds and riparian habitats is consolidated into one consistent set of plan components that applies to the entire Colville National Forest, and is consistent with other national forests in Region 6. Standards and guidelines would limit management activities that are allowed to occur within riparian habitats. This alternative includes greater riparian management area widths along intermittent streams, lakes, and ponds than in the areas previously covered by the INFISH forest plan amendment (USFS 1995).

Implementation of this alternative would reduce the effects of roads on riparian habitat within 10 watersheds in the short term (less than 20 years based on objectives). In the longer term (less than 50 years based on desired conditions) this alternative would result in road densities of equal to or less than 1 mile per square mile on 23 percent of the Forest, and equal to or less than 2 miles per square mile on 48 percent of the Forest.

Overall, this alternative would provide greater habitat protections for riparian-dependent surrogate wildlife than the no-action, proposed action, B and O alternatives, and similar to alternative R. The viability outcomes for riparian-dependent surrogate wildlife species would be improved.

### **Climate Change**

Some of the riparian associated surrogate species are rated as high sensitivity to climate change (CCSD 2013) and riparian habitats are considered vulnerable to the anticipated effects of climate change (Lawler et al. 2014). The primary effect that is anticipated from climate change is the loss of habitat and reduced connectivity of riparian habitats due to altered hydrologic and disturbance (fire) regimes (Lawler et al. 2014). The dynamic-landscape restoration approach that is emphasized in this alternative would result in landscapes, including disturbance regimes, that are more resilient to climate change through the application of strategically located restoration treatments in priority locations. In addition, emphasis of this alternative in reducing the negative effects of roads on riparian habitats would help to make them more resilient to disturbances.

### **Cumulative Effects**

The adjacent Federal land managers include the Okanogan-Wenatchee National Forest to the west, the Idaho Panhandle National Forest to the east, and the Pend Oreille National Wildlife Refuge to the southeast. The Idaho Panhandle National Forest and the Pend Oreille National Wildlife Refuge have management plans that reduce the negative effects of roads on wildlife habitats and to protect and restore riparian habitats (USFWS 2000, USFS 2015). The Okanogan-Wenatchee National Forest is in the process of revising their Forest Plan and current plan provides limited management direction to reduce the effects of roads on wildlife habitat, and riparian habitat protections in the original Forest Plan were found to be inadequate and were amended (PACFISH, INFISH-USFS 1995, ACS-USFS 1994).

On private lands, Washington State Forestry Practices Act provides some limited protections for riparian habitats. Management of priority watersheds emphasizes using an “all lands” approach to enhance coordination across landowners and may enhance conditions for riparian associated wildlife species. However, habitat protections for riparian habitats on Federal lands would help to mitigate for the limited protections and cumulative effects that occur on private lands.

### **Summary**

Implementation of this alternative would make a relatively high contribution to the viability of riparian-dependent surrogate wildlife species. This determination is based on the following:

- 15524 1) This alternative would make substantial reductions in the negative effects that roads have on  
15525 riparian habitats.
- 15526 2) This alternative would consolidate and make more consistent management direction for  
15527 riparian habitats using standards and providing larger management zones that existing  
15528 direction.
- 15529 3) This alternative would emphasize landscape restoration that will reduce the potential effects  
15530 of uncharacteristically severe fires on riparian habitats.

## 15531 Species of Management Interest

### 15532 *Deer and Elk*

#### 15533 **Direct and Indirect Effects**

15534 Forest management activities can influence deer and elk populations and habitat use. Vegetation  
15535 management activities may affect the distribution and abundance of cover and forage. Adequate  
15536 forage is particularly important during the summer and fall before the following birthing season  
15537 when this can affect the condition pregnant females (Lenz 1997, Cook 1998, Cook 2002, Cook et al.  
15538 2004, Cook et al. 2005). The management of forest roads and trails can influence how deer and elk  
15539 use habitats, and influence the interactions between deer and elk (Rowland et al. 2005, Wisdom et al.  
15540 2005a, and b). Additionally, deer and elk can compete with domestic livestock for both food  
15541 resources (Findholt et al. 2005) and space (Coe et al. 2001, Coe et al. 2005). Thus, the potential  
15542 effects that vegetation management, road and trail management, and grazing management can have  
15543 on deer and elk habitats and population are evaluated for each of the alternatives.

15544 Under alternative P, cover and forage for deer and elk on winter and summer ranges would be  
15545 managed commensurate with the historic range of variability. This would result in a sustainable level  
15546 of cover and more emphasis on enhancement of forage conditions. Considerable research has shown  
15547 that the management of deer and elk winter habitat should be less focused on the retention of thermal  
15548 cover, and more focused on the availability of forage on summer and fall habitats (see Cook et al.  
15549 2005 for a review).

15550 This alternative would improve habitat effectiveness for deer and elk on summer and winter ranges.  
15551 The Selkirk Elk Herd has a moderate level of habitat effectiveness (low level of human influence) on  
15552 their winter ranges. Under this alternative, the habitat effectiveness would be improved to high (a  
15553 low level of human influence). Overall, habitat effectiveness would be restored on approximately  
15554 48,000 acres of habitat on elk range under this alternative. The desired conditions for elk winter  
15555 ranges would be to have a high level of habitat effectiveness (low level of human influence, less than  
15556 30 percent of the winter range in the zone of influence of an open road, motorized route, or  
15557 designated ski trail).

15558 For deer, this alternative would result in a high level of habitat effectiveness (low level of human  
15559 influence) on 81 percent on the winter ranges, a moderate level on 13 percent, and a low level of  
15560 habitat effectiveness on 6 percent. The desired conditions for deer winter ranges would be to have a  
15561 high level of habitat effectiveness (low level of human influence, less than 30 percent of the winter  
15562 range in the zone of influence of an open road, motorized route, or designated ski trail).

15563 Current management direction for winter ranges is based on road density standards and would be  
15564 changed to use of the zone of influence, based on new science (Rowland et al. 2005). This alternative  
15565 includes more robust range management direction to aid in the recovery of range conditions that are  
15566 poor and slow to recover from past grazing practices.

**Climate Change**

Deer and elk have a low level of sensitivity to the effects of climate change due to their ability to tolerate a relatively wide range of climatic conditions, their high mobility, and as habitat generalists (CCSD 2013). However, alternatives that restore landscape pattern and functions while reducing the effects of roads on deer and elk summer and winter habitats would provide more resilience deer and elk populations. This alternative emphasizes landscape-scale restoration and provides consistent management direction for roads that would make modest contributions to restore habitat effectiveness for deer and elk.

**Cumulative Effects**

The historical cattle and sheep grazing that occurred on portions of the Forest degraded range conditions (Wissmar et al. 1994, Bunting et al. 2002). These conditions, combined with current domestic (cattle) and wild ungulate grazing (primarily elk and deer), have resulted maintenance or slow recovery of poor range conditions in some areas (Wissmar et al. 1994, Bunting et al. 2002). In turn, these poor range conditions have had negative effects on some important unique habitats such as riparian areas and meadows (Beebe et al. 2002, Evans 2006, Lehmkuhl et al. 2013). This alternative would result in more rigorous grazing management direction that will help to address this situation.

Winter ranges for the deer and elk occur on Federal lands, adjacent Wildlife Management Areas managed by the State, and private lands. Elk herd management plans (WDFW 2001) provide guidance for elk management on state lands and make recommendations for elk management on Forestland. Management plans for deer include the White-tailed Deer Management Plan that covers the two management units on the Colville National Forest and provides direction to manage hunting to either maintain or increase white-tailed deer populations (WDFW 2010). A considerable amount of historical winter range for deer and elk is now in private land ownership or under the waters of Lake Roosevelt (created by the Grand Coulee dam). The cumulative effects of the existing management plans (state and Federal lands) would provide for the conditions that contribute to sustainable populations of deer and elk, while considering the effects of private land development.

**Summary**

Implementation of the P alternative would make a relatively high contribution to the conditions that support sustainable populations of deer and elk. This is based on the following:

- 1) This alternative would address new science that recommends de-emphasizing the importance of winter thermal cover and increasing the emphasis on summer and fall forage quality and quantity.
- 2) This alternative provides consistent and effective direction on the management of roads and trails to restore habitat effectiveness on deer and elk summer and winter ranges.
- 3) This alternative would include more rigorous management direction to improve the conditions of key habitats, such as riparian areas and meadows that are in poor condition due to the cumulative effects of past grazing practices, and current domestic and wild ungulate grazing.



15606 **Alternative B**

15607 **Federally Listed Wildlife Species**

15608 *Grizzly Bear*

15609 **Direct and Indirect Effects**

15610 Forest activities that influence the recovery of the grizzly bear include: human access that can  
15611 displace bears from important seasonal habitats or increase the risk of bear-human interactions,  
15612 disposal of livestock carcasses within range allotments to avoid attracting bears to a potential food  
15613 source, and the storage of food and garbage at recreation sites to reduce the potential for bears to  
15614 associate humans with food sources.

15615 Management of grizzly bears does not vary between alternatives. Existing management direction  
15616 provides standards for human access, disposal of livestock carcasses, and food and garbage storage  
15617 within the Selkirk Grizzly Bear Recovery Area (IGBC 1998, USDA 1988, USFWS 1993, USDI  
15618 2001). Existing standards have largely been met and would continue to be followed.

15619 **Climate Change**

15620 Grizzly bears have been identified as having a low sensitivity to climate change because they are  
15621 opportunistic, eat a diverse array of food resources, and are highly adaptable (Servheen and Cross  
15622 2010, CCSD 2013). Anticipated impacts may include changes in the timing of denning due to longer  
15623 snow-free periods and reduced snowpack (Lawler et al. 2014) and changes in the availability of food  
15624 sources (Servheen and Cross 2010). These changes may put bears at risk of negative human  
15625 interactions for a longer period of time each year (Servheen and Cross 2010). This would make  
15626 education, proper food and garbage storage, carcass disposal measures, and human access  
15627 management that much more important.

15628 **Cumulative Effects**

15629 The primary reason for the low population of grizzly bears in the recovery zone is past persecution  
15630 and human-caused mortality of bears. Legal protections are now in place to protect grizzly bears.  
15631 Information/education programs, sanitation measures, and access management have and would  
15632 continue to be used to aid in the recovery of grizzly bears in the Selkirk Recovery Area.

15633 Past, present and reasonable foreseeable future actions that could affect grizzly bears include timber  
15634 harvest and associated road construction, recreational activities that can cause disturbance to bear  
15635 and create potential for human-bear conflicts, and human development that fragment grizzly bear  
15636 habitat. Cumulative effects are evaluated across the Recovery Area by tracking activities within  
15637 Grizzly Bear Management Units (GBMUs). Other land managers have adopted and are following  
15638 similar management direction (IPNF 2015) and overall recovery is coordinated by the Selkirk  
15639 Grizzly Bear Management Subcommittee. GBMUs that occur on the Colville National Forest include  
15640 the LeClerc, Salmo-Priest, and Sullivan-Hughes. The contribution made on Federal lands to grizzly  
15641 bear recovery would help to mitigate potential cumulative effects from off-forest activities. However,  
15642 because this alternative does not address reducing the negative impacts of roads on wildlife habitats  
15643 like in the proposed action and alternatives R and P, it does less to mitigate cumulative effects.

15644 Border Patrol activities on the Forest have the potential to cause disturbance through use of roads or  
15645 trails that are normally closed to motorized use. The exact extent or amount of the impact over the  
15646 life of the plan is difficult to predict because many factors could influence Border Patrol activities.

15647 Fuels reduction projects are possible on all land ownerships, in particular where they are near  
15648 residences. These can be done in such a way that they restore wildlife habitat that has been affected  
15649 by fire exclusion.

15650 Recreation is likely to increase on all land ownerships due to increasing demands. This would  
15651 increase human disturbance and result in NFS lands that have relatively low human disturbance (e.g.,  
15652 core areas) to become more important to wildlife such as grizzly bears.

15653 Black bear hunting on both sides of the international border within the Selkirk Recovery Area has the  
15654 potential to add cumulatively to the mortality of grizzly bears. Hunters that encounter grizzly bears  
15655 may mistakenly identify the bear, kill the bear in self-defense, or opportunistically poach the bear.  
15656 Human access management within the recovery area is key to reducing the risk of mortality to  
15657 grizzly bears from black bear hunting.

15658 On private lands, the presence of garbage, pet food, fruit trees, or other attractants may lure bears  
15659 into conflict situations. Bears that become habituated or a nuisance may lead to the bear being killed.

#### 15660 **Summary**

15661 This alternative would make a relatively high contribution to the recovery of grizzly bears in the  
15662 Selkirk Recovery Area and would result in a May Affect, Not Likely to Adversely Affect  
15663 determination. This is based on the existing management direction, followed in all alternatives, that  
15664 addresses:

- 15665 1) Human access management,
- 15666 2) Disposal of carcasses in range allotments that occur in the recovery area, and
- 15667 3) Proper storage of food, garbage and other attractants that may lead to human-bear  
15668 interactions.

#### 15669 *Canada Lynx*

##### 15670 **Direct and Indirect Effects**

15671 The forest management activities that influence the recovery and conservation of Canada lynx  
15672 include: vegetation management that affect lynx habitat components, winter recreation that  
15673 influences habitat connectivity and lynx habitat use, forest roads that can become sources of lynx  
15674 mortality at high traffic volumes and speeds, and grazing effects to riparian areas that provide habitat  
15675 for snowshoe hares, a primary food resource for lynx (ILBT 2013). The Interagency Lynx Biology  
15676 Team (ILBT 2013) developed conservation measures for core and secondary areas (USFWS 2005) to  
15677 address each of these forest management activities, and for planners to consult when revising forest  
15678 plans. These were used to evaluate the potential contribution of forest management alternatives to the  
15679 recovery of Canada lynx.

15680 When the USFWS reviewed existing regulatory mechanisms to determine if listing Canada lynx as a  
15681 federally protected species was warranted, they determined that existing forest plans provided  
15682 inadequate protections (USFWS 2003). Several national forests within the range of the Canada lynx  
15683 subsequently amended their forest plans using the original Lynx Conservation Assessment and  
15684 Strategy (Ruediger et al. 2000) as a basis for current science. However, forest plans in Region 6 were  
15685 not amended, thus existing management plans do not address recent science and conservation  
15686 recommendations (ILBT 2013), recovery objectives (USFWS 2005), or critical habitat (USFWS  
15687 2009). This alternative does not include updated management direction for Canada lynx.

15688 Vegetation management activities affect the distribution of lynx habitat components, can fragment  
15689 habitats, and create sources of disturbance (ILBT 2013). As a result, risk factors associated with  
15690 vegetation management activities were identified and conservation measures were developed to  
15691 address the risk factors (ILBT 2013). The conservation measures for vegetation management apply  
15692 to lynx core areas and include use of the natural range of variability to mimic pattern and scale of  
15693 natural disturbances and connectivity across the landscape while considering the future climate  
15694 change (ILBT 2013). A conservation measure focused on the restoration of disturbance regimes in  
15695 dry forests that occur in close proximity to lynx habitat to reduce the risk of uncharacteristically  
15696 severe and frequent fires reaching lynx habitat. Finally, conservation measures were recommended to  
15697 address the amount of vegetation management and the rate of habitat change (e.g., acres treated per  
15698 decade) within lynx analysis units. There is no management direction in this alternative that would  
15699 address these conservation measures.

15700 Conservation measures were identified to address the effects that highways have on habitat  
15701 connectivity for lynx in core areas (ILBT 2013). The Kettle-Wedge is a Core Area on the Colville  
15702 National Forest.

15703 Winter recreation can influence how lynx use habitats (ILBT 2013). To minimize the potential of  
15704 negative effects from winter recreation, the ILBT (2013) developed conservation measures to reduce  
15705 effects. Conservation measures for winter recreation in lynx core areas included reducing effects on  
15706 habitat connectivity and to discourage expansion of over-the-snow routes that may influence lynx  
15707 habitat use (ILBT 2013). This alternative does not address effects of over-the-snow recreation on  
15708 lynx habitat.

15709 The conservation measures for forest roads in lynx core areas include avoiding road reconstruction  
15710 or upgrades that occur in lynx habitat and would result in increased traffic speeds or volumes (ILBT  
15711 2013). These measures would reduce the potential for vehicular traffic to result in a source of  
15712 mortality to lynx. There is no management direction in this alternative to address this conservation  
15713 measure.

15714 The conservation measures for grazing in lynx core areas include management of riparian areas to  
15715 assure adequate habitat for snowshoe hares, the primary prey species for Canada lynx (ILBT 2013).  
15716 This alternative includes management direction for grazing in riparian areas to mitigate effects to  
15717 habitat for listed fish species, but does not include anything specific to Canada lynx or snowshoe  
15718 hares.

15719 Alternative B would provide limited management direction to address the direct and indirect effects  
15720 of forest management activities on the recovery of Canada lynx. Alternative B would provide less  
15721 protection for Canada lynx than the proposed action, R and P alternatives, and protection similar to  
15722 no action and alternative O.

### 15723 **Climate Change**

15724 The potential effects of climate change on Canada lynx identified by the Interagency Lynx Biology  
15725 Team (2013) included: (1) an upward shift in elevation or latitudinal distribution of lynx and prey,  
15726 (2) a decrease in the amount of habitat and population size from reduced snow persistence and  
15727 increased disturbance events (e.g., fires), (3) changes in demographic rates, such as survival and  
15728 reproduction, and (4) changes in predator-prey relationships.

15729 Climate change adaptations to address these effects include restoration of landscape-scale  
15730 disturbance regimes to better mimic natural patterns and processes (Spies et al. 2010, Gaines et al.  
15731 2012, Lawler et al. 2014), and maintaining or restoring habitat connectivity to allow Canada lynx to

15732 adjust their ranges to changing conditions (Heller and Zavaleta 2009, ILBT 2013, Squires et al.  
15733 2013). There is limited management direction in the existing management plans to address these  
15734 climate change adaptations.

15735 **Cumulative Effects**

15736 Past, present, and reasonably foreseeable actions that affect lynx habitat include timber harvest and  
15737 fuels reduction, recreation, human development, and grazing on private and public lands. In addition,  
15738 legal trapping of lynx, timber harvest, oil and gas development, mining and human access in British  
15739 Columbia have and will continue to affect Canada lynx habitat.

15740 Past vegetation management and large scale fires on the Forest within lynx habitat has resulted in a  
15741 distribution and amount of successional stages (early, mid, late) that are outside the HRV. This  
15742 alternative would not emphasize vegetation management activities to restore lynx habitats toward the  
15743 HRV.

15744 Border Patrol activities on the Forest have the potential to cause disturbance through use of roads or  
15745 trails that are normally closed to motorized use. The exact extent or amount of the impact over the  
15746 life of the plan is difficult to predict because many factors could influence Border Patrol activities.

15747 Grazing has occurred and would continue to take place on off-forest lands potentially impacting  
15748 deciduous or riparian habitats for lynx prey species.

15749 Fuels reduction projects are possible on all land ownerships, in particular where they are near  
15750 residences. These can be done in such a way that they restore wildlife habitat that has been affected  
15751 by fire exclusion.

15752 Recreation is likely to increase on all land ownerships due to increasing demands. This would  
15753 increase human disturbance and result in NFS lands that have relatively low human disturbance to  
15754 become more important to wildlife.

15755 All Federal lands within Canada lynx core and secondary areas would use the Lynx Conservation  
15756 Assessment and Strategy (LCAS) (ILBT 2013) as current science to guide project level consultation  
15757 and land management planning. The North Cascades National Park Complex recently revised their  
15758 management plan to include the LCAS (NPS 2012). The Idaho Panhandle National Forest land  
15759 management plan was recently revised to address the conservation measures identified in the LCAS  
15760 (USFS 2015). The conservation of lynx on WDNR lands is guided by the Department of Natural  
15761 Resources Lynx Habitat Management Plan (WDNR 1996, updated in 2002). The management plan  
15762 for the Pend Oreille National Wildlife Refuge provides conservation measures to contribute to the  
15763 recovery and viability of Canada lynx (USFWS 2000). Collectively, these management plans have  
15764 addressed many of the conservation measures identified for Canada lynx (ILBT 2013) and would  
15765 help mitigate potential cumulative effects that may occur from off-forest activities. In addition, no  
15766 critical habitat was identified on the Colville National Forest or on adjacent lands (USFWS 2009).

15767 In Canada, timber harvesting, oil and gas development, coal mining, and the proliferation of human  
15768 access associated with these industries, have and would continue to affect lynx habitat. Legal  
15769 trapping occurs north of the Forest in Canada and could reduce the potential for lynx to disperse into  
15770 the lynx habitat on the Forest. Trapping is not legal in Idaho, Montana, or Washington.

**Summary**

Alternative B would make a relatively low contribution to the recovery of the Canada lynx in both the short (less than 20 years) and long (less than 50 years) term, and result in a May Effect, Likely to Adversely Affect determination. This is because of the following:

- 1) This alternative does not address the best available science and conservation measures identified in the recent version of the Lynx Conservation Assessment and Strategy (ILBT 2013), and USFWS Recovery Outline (USFWS 2005);
- 2) This alternative does not address recommended climate change adaptations, and
- 3) This alternative relies on direction in existing management plans, which were found to provide inadequate regulatory mechanisms to address threats to the Canada lynx (USFWS 2003).

**Late-successional and Old Forest Habitats (Federally Listed Wildlife Species)**

*Woodland Caribou*

**Direct and Indirect Effects**

The forest management activities that can influence the recovery and viability of woodland caribou include: (1) Vegetation management and natural disturbances affect the amount and connectivity of old growth forests of Engelmann spruce/subalpine fir and western redcedar/western hemlock. (2) Human access that can increase the potential for poaching and cause disturbance to caribou during the critical winter period. These effects were used to evaluate the potential contribution of each alternative to the recovery of woodland caribou.

This alternative would implement new science, recommendations from the Biological Opinion issued in 2001 (USFWS 2001) on the 1988 forest plan (USFS 1988), and address the critical habitat designation (USFWS 2012). Vegetation management attempts to balance providing forest conditions for suitable caribou habitat while providing for timber production. Timber harvest has been cited as one of the primary factors that has reduced and fragmented old growth habitats for woodland caribou (USFWS 1994, USFWS 2012).

A term and condition of the 2001 Biological Opinion was that the Forest develop a winter recreation strategy that protects important winter habitats for caribou while providing some level of winter recreation access. This strategy was developed (USFS 2003) and would be fully integrated into this alternative. The strategy includes information and education about the effects of winter recreation on wildlife, monitoring and enforcement of areas closed to over-the-snow activities, and limitations on permitted over-the-snow activities. Collectively, these actions have reduced the impacts of winter recreation to caribou habitat while providing recreation opportunities in areas and at the time of the winter season when effects to caribou are minimal. However, this alternative would not emphasize reducing the negative effects of forest roads on wildlife habitat.

**Climate Change**

Climate change would likely alter the distribution and abundance of suitable caribou habitat, and would also change snow depths and persistence, which affect seasonal movements of mountain caribou (WDFW 2012). The potential effects of climate change depend on the interaction, not only of seasonal temperatures and snowfall patterns, but also occurrence of wildfires, outbreaks of forest insects, and diseases (Mountain Caribou Science Team 2005). Management adaptations to address the effects of climate change include a focus on forest restoration and reducing non-climatic factors

15813 that affect wildlife populations (e.g., reducing impacts of winter recreation on habitat effectiveness  
15814 for caribou). This alternative would not implement these adaptations.

15815 **Cumulative Effects**

15816 The caribou recovery area is 1,477 square miles in size and includes the Colville National Forest,  
15817 Idaho Panhandle National Forest, Idaho Department of Lands, and British Columbia. About  
15818 47 percent of the recovery area is in the United States and 53 percent in British Columbia. The Idaho  
15819 Panhandle National Forest recently revised the forest plan to address habitat and risk factors  
15820 identified in the caribou recovery plan and critical habitat (USFS 2015). The caribou recovery team  
15821 works cooperatively to address cumulative effects on woodland caribou.

15822 Past activities on the Forest have impacted caribou habitat. Over-the-snow motorized use, prior to  
15823 the implementation of the Winter Recreation Strategy (USFS 2003), may have caused disturbance to  
15824 caribou. The alternative would continue with implementation of the Winter Recreation Strategy,  
15825 limiting the cumulative effects on caribou.

15826 Past vegetation management and disturbances on the Forest have resulted in the distribution and  
15827 arrangement of successional stages (early, mid, late) that are outside the HRV. Presently, more of the  
15828 landscape is in med-successional and less in late-successional habitats compared to HRV. This  
15829 alternative would not manage habitats toward HRV, and would not be as effective as the proposed  
15830 action and alternative P at mitigating for the cumulative effects of off-forest timber harvest.

15831 Border Patrol activities on the Forest have the potential to cause disturbance through use of roads or  
15832 trails that are normally closed to motorized use. The exact extent or amount of the impact over the  
15833 life of the plan is difficult to predict because many factors could influence Border Patrol activities.

15834 Fuels reduction projects are possible on all land ownerships, in particular where they are near  
15835 residences. These can be done in such a way that they restore wildlife habitat that has been affected  
15836 by fire exclusion.

15837 Recreation is likely to increase on all land ownerships due to increasing demands. This would  
15838 increase human disturbance and result in NFS lands that have relatively low human disturbance to  
15839 become more important to wildlife such as caribou. However, because this alternative does not  
15840 address the negative impacts of roads on wildlife habitat, it provides less opportunity to mitigate the  
15841 cumulative effects of recreation.

15842 Big game hunting continues on both sides of the U.S./Canada border. Encounters with hunters may  
15843 result in caribou mortality as a result of mistaken identification. Legal harvest of caribou by Treaty  
15844 Indians does occur, but with few statistics on the number of animals taken it is difficult to evaluate  
15845 the influence of this on the caribou population. Fatal collisions with vehicles occur on open roads in  
15846 caribou habitat and are likely to continue. Predation by mountain lions, wolves, and other predators  
15847 would continue, with the effect on the caribou population dependent on big game populations,  
15848 predator populations and a variety of other factors.

15849 One important factor is how the Canadian officials decide to manage this herd. In the British  
15850 Columbia portion of the recovery area, human activities that would continue to impact caribou  
15851 habitat include gas, powerline, and international border corridors, recreation activities, timber  
15852 harvest, and highways.

**Summary**

Implementation of this alternative would have a May Affect, Not Likely to Adversely Affect determination for woodland caribou. It would make a moderate contribution to the recovery of woodland caribou. The reasons for this determination are:

- 1) This alternative would address new science and risk factors identified in the recovery plan and critical habitat, but does not emphasize forest restoration as in the proposed action and alternative P.
- 2) This alternative would formally adopt the winter recreation strategy for caribou habitat that was a Term and Condition of the 2001 Biological Opinion.
- 3) This alternative attempts to balance the protection of caribou habitat with timber production, but does not address climate change adaptations that would enhance forest resiliency to the degree that other alternatives do.

***Surrogate Wildlife Species***

**Direct and Indirect Effects**

Forest activities that directly influence the viability of late-successional and old forest (LSOF) dependent surrogate species include: the loss of LSOF habitat from fire (Healy et al. 2008, Davis et al. 2011), vegetation treatments (e.g., timber harvest, thinning, prescribed fire) that affect forest structure (e.g., canopy closure, snags, downed wood)(Healy et al. 2008, Wisdom et al. 2008, Davis et al. 2011), management of roads that influence habitat effectiveness (Gaines et al. 2003), and protection of riparian areas which are an important element of LSOF habitats for some species (e.g., Bald eagles).

This alternative retains existing management direction for LSOF species that is based on a system of small management areas that retains LSOF habitat for specific Management Indicator Species (e.g., American marten, barred owl, pileated woodpecker). These areas range in size from 75 to 300 acres, are relatively equally distributed, but have no way to provide for habitat connectivity between or among the small islands of habitat. These small islands of habitat are also highly susceptible to disturbances such as fire, insects, and tree diseases, with no redundancy or replacement habitat in the event they are lost. This system was based on minimizing the effects of protection of LSOF habitat on the timber harvest level. This system was deemed inadequate to provide for the viability of LSOF species and thus Forest Plans were amended with the Eastside Screens (USFS 1995). The intent was for the Eastside Screens to provide interim direction until the Forest Plan was revised.

The area in-between the small islands of LSOF habitat is managed primarily through even-aged timber production, with some protections for elements of LSOF habitat, such as snags and downed wood. However, the combination of roads and timber harvest generally results in these areas having snag habitat below levels that would maintain viable populations of snag-dependent wildlife species. Again, the management direction in the original Forest Plan was deemed inadequate, thus additional direction was adopted through the Eastside Screens (USFS 1995), with the intent that this would serve as interim direction until the Forest Plan was revised. The Eastside Screens restrict the cutting of trees greater than 21 inches in diameter.

This alternative would not provide management direction that will reduce the negative effects of roads on wildlife habitats. Currently, there are about 4,000 miles of road, resulting in an overall road density on the roaded portion of the Forest of about 3 miles per square mile, which is considered a low level of habitat effectiveness for many surrogate species (Wisdom et al. 2000, Gaines et al. 2003).

Overall, alternative B would provide management direction for LSOF habitat that is similar to no action and alternative O, but would provide less LSOF habitat than the R and P alternatives. This alternative would not improve the viability outcomes for surrogate wildlife species that are dependent on LSOF habitats in the short (less than 20 years) or long (less than 50 years) time periods.

### **Climate Change**

The sensitivity of LSOF associated surrogate wildlife species to the effects of climate change were identified as medium for pileated woodpecker, and high for northern goshawk and American marten (CCSD 2013). The primary effect of climate change is the loss of LSOF habitats due to altered disturbance regimes (CCSD 2013).

Since the mid-1980s, the size and intensity of large wildfires in the western United States have increased markedly (Westerling et al. 2006), due, in part, to a reduction in fuel moisture driven by increased temperature and lower snowpack. Increases in fire risk and severity have been also been driven, in part, by increased fuel loads because of fire suppression practices used over the last century (McKenzie et al. 2004). Predicted increases in spring and summer temperature identified in many climate change models would exacerbate the frequency and intensity of disturbances such as fire (McKenzie et al. 2004, Wotton and Flannigan 1993) and defoliation caused by forest insects (Littell et al. 2009). In the interior Columbia Basin, Littell et al. (2009) predicted that the area burned is likely to double or even triple by 2050. Climate-driven changes in fire regimes would likely be the dominant driver of changes to forests and LSOF habitats in the western United States over the next century (McKenzie et al. 2004).

A landscape restoration approach is not emphasized in this alternative. Landscape-scale restoration has been identified as an adaptive strategy to create landscapes more resilient to climate change (Spies et al. 2010, Gaines et al. 2012) and to maintain late-successional and old forest habitats (Lawler et al. 2014). The emphasis on restoration of resiliency would result in landscapes, including disturbance regimes that are more resilient to climate change through the application of strategically located restoration treatments in priority locations (Noss et al. 2006, Spies et al. 2006, Gaines et al. 2010, Franklin and Johnson 2012). By strategically locating restoration treatments, landscape-scale fire behavior may be altered to be more similar to native disturbance regimes and the risk of loss of LSOF habitat to uncharacteristically severe fires may be reduced (Finney 2001, Finney et al. 2006, Ager et al. 2007, Lehmkuhl et al. 2007).

### **Cumulative Effects**

The adjacent Federal land managers include the Okanogan-Wenatchee National Forest to the west, the Idaho Panhandle National Forest to the east, and the Pend Oreille National Wildlife Refuge to the southeast. The Idaho Panhandle National Forest and the Pend Oreille National Wildlife Refuge have management plans that reduce the negative effects of roads on wildlife habitats and to protect and restore LSOF habitats (USFWS 2000, USFS 2015). The Okanogan-Wenatchee National Forest is in the process of revising their Forest Plan and current plan provides limited management direction to reduce the effects of roads on wildlife habitat, and LSOF habitat protections in the original Forest Plan were found to be inadequate and were amended by the Eastside Screens USFS 1995).

Past vegetation management and disturbances on the Forest have resulted in the distribution and arrangement of successional stages (early, mid, late) that are outside the HRV. Presently, more of the landscape is in med-successional and less in late-successional habitats compared to HRV. This alternative would not manage habitats toward HRV, and would not be as effective as the proposed action and alternative P at mitigating for the cumulative effects of off-forest timber harvest.



Fuels reduction projects are possible on all land ownerships, in particular where they are near residences. These can be done in such a way that they restore wildlife habitat that has been affected by fire exclusion.

Border Patrol activities on the Forest have the potential to cause disturbance through use of roads or trails that are normally closed to motorized use. The exact extent or amount of the impact over the life of the plan is difficult to predict because many factors could influence Border Patrol activities. Recreation is likely to increase on all land ownerships due to increasing demands. This would increase human disturbance and result in NFS lands that have relatively low human disturbance to become more important to wildlife.

### **Summary**

The implementation of this alternative would make a relatively low contribution to the viability of LSOF dependent surrogate wildlife species. This determination is based on the following:

- 1) The LSOF habitat provided by this alternative would provide minimal contribution to the viability of LSOF surrogate wildlife species.
- 2) This alternative does not emphasize restoration of landscape resiliency to reduce the loss of LSOF habitats to uncharacteristically severe wildfires.
- 3) The protection and conservation of key elements of LSOF habitat such as large trees and snags, and riparian areas is limited.
- 4) The alternative would not result in the restoration of habitat effectiveness by reducing the negative effects of roads on LSOF habitats.

## **Motorized Recreation and Road Access**

### ***Surrogate Wildlife Species***

#### **Direct and Indirect Effects**

Motorized recreation and the use of forest roads influence the viability of surrogate wildlife species. These potential effects include displacement from key habitats, disturbance during critical time periods, and the risk of mortality caused by collisions with vehicles (see Wisdom et al. 2000 and Gaines et al. 2003 for a complete list of road and trail associated factors that influence wildlife). The effects of motorized recreation and roads can occur during the non-winter period or during the winter period when snowmobiling or ski-trail grooming occurs.

Implementation of this alternative would have limited opportunity to reduce the negative effects of roads on surrogate species habitats because management direction for roads would be for no net loss of road miles (approximately 4,000 miles) and emphasize big-game species. Currently, the average road density (not counting the wilderness and recommended wilderness) is about 3.0 miles per square mile, which is a low level of habitat effectiveness for surrogate wildlife species (Wisdom et al. 2000).

This alternative would reduce summer-motorized trail use by 30 miles within two watersheds, thus improving habitat effectiveness for surrogate species. Overall, this alternative would provide a level of habitat effectiveness for surrogate wildlife that is similar to no action and alternative O, and less than the proposed action, R, and P alternatives.

**Climate Change**

The sensitivity of surrogate wildlife species used to assess the effects of roads and motorized recreation is rated as moderate for bighorn sheep, and high for Harlequin duck, Canada lynx, and wolverine (CCSD 2013). An important climate change adaptation that has been recommended for wildlife is to reduce the negative effects of roads (and trails) on habitat (Gaines et al. 2012, Lawler et al. 2014). By reducing the negative effects of roads, habitats (especially riparian and wetland habitats) can become more resilient to the effects of climate change, and habitat connectivity can be restored allowing wildlife to adjust their ranges as conditions change. The implementation of this alternative includes management direction to make very limited improvement to habitat effectiveness for surrogate wildlife by reducing road impacts and densities.

**Cumulative Effects**

The adjacent Federal land managers include the Okanogan-Wenatchee National Forest to the west, the Idaho Panhandle National Forest to the east, and the Pend Oreille National Wildlife Refuge to the southeast. The Idaho Panhandle National Forest and the Pend Oreille National Wildlife Refuge have management plans that reduce the negative impacts of roads on wildlife habitats and restore habitat effectiveness (USFWS 2000, USFS 2015). The Okanogan-Wenatchee National Forest plan provides limited management direction to reduce the effects of roads on wildlife habitat, mostly focused on big-game species.

The limited management direction in the existing Forest Plan to reduce the negative effects of roads on wildlife and continued development of private lands (located mostly in north-south valley bottoms that bisect the Forest) means that management of roads and motorized trails on Federal lands is even more important to the viability of surrogate wildlife species.

Border Patrol activities on the Forest have the potential to cause disturbance through use of roads or trails that are normally closed to motorized use. The exact extent or amount of the impact over the life of the plan is difficult to predict because many factors could influence Border Patrol activities. Recreation is likely to increase on all land ownerships due to increasing demands. This would increase human disturbance and result in NFS lands that have relatively low human disturbance to become more important to wildlife.

**Summary**

Implementation of this alternative would make a relatively low contribution to the viability of surrogate wildlife species whose habitats are influenced by motorized access. This would occur because:

- 1) The alternative includes limited management direction to reduce the impact of roads on habitat effectiveness for surrogate wildlife species,
- 2) This alternative does reduce the impacts summer-motorized trails have of habitat effectiveness for surrogate wildlife species in two watersheds, and
- 3) This alternative does little to address the cumulative effects for human access and development on wildlife habitats.

16019 **Livestock Grazing**

16020 *Surrogate Wildlife Species*

16021 **Direct and Indirect Effects**

16022 Grazing can influence habitats of surrogate wildlife species by removing key habitat elements (e.g.,  
16023 dense shrubs for MacGillivray's warbler and fox sparrow), especially in riparian habitats; alter  
16024 disturbance regimes that maintain habitat structure (e.g., frequent fires in dry forests and grasslands  
16025 keep open canopy for western bluebird); and influence the availability of important prey items (e.g.,  
16026 squirrels for golden eagles). To address the potential effects on surrogate wildlife species, the  
16027 management direction regarding grazing in riparian habitat and upland habitats for each alternative  
16028 was assessed.

16029 This alternative would continue with the existing direction for riparian habitats found in the existing  
16030 forest plan and amendment (PACFISH, USFS 1995). Presently, many riparian habitats are in poor  
16031 condition due to the effects of past and current grazing. The plan direction for this alternative would  
16032 have little effect on altering the distribution of livestock that will allow riparian habitats to recover.

16033 This alternative does not include ecologically based desired conditions for upland non-forest habitats  
16034 (e.g., rangeland and alpine habitats) or standards to protect unique habitats. This alternative would  
16035 not alter the number of livestock, the intensity of grazing, nor the amount of area grazed. Presently,  
16036 73 percent of the Forest is in a livestock allotment and animal unit months (AUMs) average about  
16037 25,000 per year. This alternative would make a limited contribution to the viability of surrogate  
16038 wildlife species that were used to assess the effects of grazing on wildlife habitats.

16039 **Climate Change**

16040 Habitats that are particularly sensitive to the effects of climate change include riparian areas  
16041 (including wetlands) and alpine areas (Lawler et al. 2014). A management adaptation to make these  
16042 habitats more resilient to climate change is to reduce the effects of non-climatic stressors (e.g., roads,  
16043 intense grazing, etc.) (Lawler et al. 2014). This alternative would not include management direction  
16044 that will restore the resiliency of habitats that are sensitive to climate change.

16045 **Cumulative Effects**

16046 Grazing occurs on nearby private, State, tribal, and Federal lands. Where grazing is allowed on the  
16047 adjacent Okanogan-Wenatchee National Forest and Idaho Panhandle National Forest, it is managed  
16048 to accommodate other public land uses, such as contributing to the viability of surrogate wildlife  
16049 species. On the adjacent Little Pend Oreille Wildlife Refuge, livestock grazing was reduced over  
16050 time to allow restoration of riparian habitats and is currently only used to achieve specific wildlife  
16051 habitat objectives (USFWS 2000). Grazing on non-Federal lands increases the need to provide for  
16052 wildlife habitats on Federal lands that contribute to the viability of surrogate wildlife species.

16053 This alternative does not include management direction for some key habitats that would better  
16054 account for the cumulative effects of grazing on wildlife habitats.

16055 **Summary**

16056 Implementation of this alternative would make a relatively low contribution to viability for surrogate  
16057 wildlife species that are influenced by domestic grazing. This determination is based on:

- 16058 1) This alternative does not include management direction for key habitats that would reduce  
16059 the negative effects of grazing and improve riparian habitat condition, and

16060           2) This alternative would not change the number, grazing intensity or distribution of livestock.

16061   **Habitat Connectivity**

16062   *Surrogate Wildlife Species*

16063   **Direct and Indirect Effects**

16064   There are a number of forest management activities that influence habitat connectivity for surrogate  
16065   wildlife species. These include: the amount, patch sizes, and spatial arrangement of suitable habitats;  
16066   location and density of motorized travel routes, especially in relation to riparian and LSOF habitats.  
16067   These are addressed in the evaluation of how forest management alternatives would affect habitat  
16068   connectivity for surrogate wildlife species.

16069   Current management direction is used in this alternative and is focused on providing habitat  
16070   connectivity for LSOF species through the identification of connectivity corridors during project  
16071   planning (as per Eastside Screens, USFS 1995). Additional provisions for low to moderate mobility  
16072   LSOF species are provided through Riparian Management Zones. There is no management direction  
16073   that addresses habitat connectivity for wildlife species that are not associated with LSOF habitats  
16074   (e.g., wide-ranging carnivores, Singleton et al. 2002).

16075   Implementation of this alternative would have limited opportunity to reduce the negative effects of  
16076   roads on surrogate species habitats because management direction for roads would be for no net loss  
16077   of road miles (approximately 4,000 miles) and only address big-game species. Currently, the average  
16078   road density (not counting the wilderness and recommended wilderness) is about 3.0 miles per  
16079   square mile, which is a low level of habitat effectiveness for surrogate wildlife species.

16080   This alternative would reduce summer-motorized trail use by 30 miles within two watersheds, thus  
16081   reducing impacts to surrogate species habitat effectiveness.

16082   **Climate Change**

16083   Maintaining and restoring ecological connectivity is the most oft-cited climate adaptation strategy  
16084   for biodiversity conservation (Heller and Zavaleta 2009, Opham and Wascher 2004, Parmesan 2006,  
16085   Spies et al. 2010) and has been identified as an important adaptation strategy for wildlife in  
16086   northeastern Washington (Gaines et al. 2012). This is because species' range shifts have been the  
16087   primary biological response to past episodes of climatic change, yet widespread anthropogenic  
16088   barriers to movement would now challenge species' ability to respond (Price 2002, Thomas and  
16089   Lennon 1999, Wormworth and Mallon 2006).

16090   This alternative does provide direction to address habitat connectivity for some highly mobile LSOF  
16091   wildlife species. However, there is no management direction that addresses habitat connectivity for  
16092   wildlife species not associated with LSOF habitats (e.g., wide-ranging carnivores), nor does this  
16093   alternative address the effects of forest roads on habitat connectivity . Much has been learned about  
16094   the effects of climate change on wildlife since the Forest plans were developed and amended, and  
16095   this alternative does not adequately address recommended climate adaptations to maintain or restore  
16096   habitat connectivity for a wide-array of wildlife species.

16097   **Cumulative Effects**

16098   Past, present, and reasonably foreseeable human developments and transportation infrastructure,  
16099   along with land ownership patterns create cumulative impacts that limit options to conserve and  
16100   restore regional connectivity. Regional habitat connectivity has been evaluated for a variety of

16101 wildlife species, including the surrogate wildlife species used to evaluate connectivity in this  
16102 planning area (Singleton et al. 2002, WWHCWG 2010). These assessments have shown the  
16103 importance of the Colville National Forest in providing stepping-stone habitats between the  
16104 Cascades and Selkirk Mountains (Singleton et al. 2002, WWHCWG 2010, Proctor et al. 2015).  
16105 Connectivity from the Cascades to the Kettle Range to the Selkirk Mountains is interrupted by  
16106 transportation corridors and human developments associated with the Okanogan, Upper Columbia,  
16107 and Pend Oreille river valleys (Singleton et al. 2002, WWHCWG 2010). Additionally, connectivity  
16108 planning in southern British Columbia identified linkage areas that could greatly enhance wildlife  
16109 movements between the Selkirk Mountains and the Purcell Mountains (Apps et al. 2007, Proctor et  
16110 al. 2015).

16111 Reducing the direct and indirect effects of roads on wildlife habitats would contribute to the  
16112 maintenance and restoration of habitat connectivity, including cumulative effects, but is not  
16113 emphasized in this alternative. Border Patrol activities on the Forest have the potential to cause  
16114 disturbance through use of roads or trails that are normally closed to motorized use. The exact extent  
16115 or amount of the impact over the life of the plan is difficult to predict because many factors could  
16116 influence Border Patrol activities. Recreation is likely to increase on all land ownerships due to  
16117 increasing demands. This would increase human disturbance and result in NFS lands that have  
16118 relatively low human disturbance to become more important to wildlife.

#### 16119 **Summary**

16120 Alternative B would provide limited direction that addresses habitat connectivity, and most is  
16121 relevant to wildlife species associated with LSOF habitats. Thus, the implementation of alternative B  
16122 would provide a relatively low contribution to the viability of surrogate wildlife species used to  
16123 assess habitat connectivity. The primary reasons for this conclusion include:

- 16124 1) No management direction to address wildlife species that are not associated with LSOF  
16125 habitats (e.g., wide-ranging carnivores),
- 16126 2) Limited management direction that addresses the effects of roads and road networks on  
16127 habitat connectivity, despite this being a primary factor that influences wildlife movements.

#### 16128 **Snag Habitat**

##### 16129 *Surrogate Wildlife Species*

#### 16130 **Direct and Indirect Effects**

16131 Forest activities that directly influence the availability of habitat for snag-dependent surrogate  
16132 species include firewood cutting (Bate et al. 2007, Hollenbeck et al. 2013), the loss of snag habitat  
16133 along roads and at recreation sites from hazard tree reduction (Bate et al. 2007, Hollenbeck et al.  
16134 2013, Wisdom et al. 2008), and removal of snags during timber harvest for safety reasons (Wisdom  
16135 et al. 2008). The Forest Plans includes management direction for snag habitat to address the potential  
16136 loss of habitat in timber sale operations. However, this alternative includes a 21-inch-diameter limit  
16137 on the size of snags that can be cut for firewood.

16138 This alternative includes 43 percent of the Forest that emphasizes even-aged timber harvest, resulting  
16139 in the potential loss of snag habitat for safety reasons. An additional 31 percent of the forest would  
16140 be actively managed for restoration.

16141 Implementation of this alternative would have limited opportunity to reduce the negative effects of  
16142 roads on surrogate species habitats because management direction for roads would be for no net loss

of road miles (approximately 4,000 miles). Currently, the average road density (not counting the wilderness and recommended wilderness) is about 3.0 miles per square mile, which would result in a considerable loss of snag habitat for safety and hazard tree reduction (Bate et al. 2007, Hollenbeck et al. 2013, Wisdom et al. 2008).

Overall, this alternative would provide habitat protections for snag-dependent wildlife that are similar to no action and alternative O, but less than the proposed action and alternatives R and P. The viability outcomes for surrogate wildlife species dependent on snag habitat would not be improved and would remain below the historical capability.

### **Climate Change**

Surrogate wildlife species associated with snag habitats include the pileated woodpecker, white-headed woodpecker, black-backed woodpecker, and Lewis's woodpecker, which are rated as medium sensitivity to climate change, and the western bluebird as high sensitivity (CCSD 2013). The primary effect that is anticipated from climate change is the loss of habitat due to altered disturbance regimes. Because this alternative does not focus on landscape-scale restoration, the restoration of disturbance regimes would not be emphasized. Thus, habitat for snag-dependent surrogate wildlife is likely to be lost at an accelerated rate due to increased disturbances associated with climate change, loss of snag habitat from relatively intense timber harvest, and loss of snag habitat associated with hazard tree removal along roads. The increase in fire associated with climate change could create a short-term gain in snag habitat followed by a long-term (80-100 years, Harrod et al. 1998) reduction as snags attrition occurs.

### **Cumulative Effects**

The adjacent Federal land managers include the Okanogan-Wenatchee National Forest to the west, the Idaho Panhandle National Forest to the east, and the Pend Oreille National Wildlife Refuge to the southeast. The Idaho Panhandle National Forest and the Pend Oreille National Wildlife Refuge have management plans that reduce the negative effects of roads on wildlife habitats and more rigorous snag requirements to contribute to the viability of snag-dependent wildlife (USFWS 2000, USFS 2015). The Okanogan-Wenatchee National Forest is in the process of revising their Forest Plan and current plan provides limited management direction to reduce the effects of roads on wildlife habitats and current required snag densities make limited contribution to the viability of surrogate wildlife species. The limited management direction for snag habitat on non-Federal lands adjacent to the planning area, places additional emphasis on providing for viability populations of snag-dependent wildlife species on Federal lands. Fuels reduction projects are possible on all land ownerships, in particular where they are near residences. These can be done in such a way that they restore wildlife habitat that has been affected by fire exclusion, but treatments can lead to the loss of snag habitat for safety reasons.

### **Summary**

Implementation of this alternative would make a relatively low contribution to the viability of snag-dependent surrogate wildlife species. This determination is based on:

- 1) This alternative would not focus on landscape restoration of habitats and disturbance regimes that influence the availability and condition of snag habitat.
- 2) This alternative would make limited reductions in the negative effects of roads on snag habitat.
- 3) Snag habitat would be reduced due to timber harvest and active management, and an extensive road network would further reduce snag habitat for safety reasons.

16187 **Riparian Habitats**

16188 *Surrogate Wildlife Species*

16189 **Direct and Indirect Effects**

16190 Forest activities that directly influence the quality and availability of habitat for riparian-dependent  
16191 surrogate species include management of roads, recreation sites, grazing, and vegetation treatments  
16192 that occur within riparian habitats.

16193 In this alternative, management direction for watersheds and riparian habitats is not consolidated into  
16194 one consistent set of plan components (e.g., direction is in both the existing forest plan and in the  
16195 INFISH amendment). Standards and guidelines would limit management activities that are allowed  
16196 to occur within riparian habitats. This alternative includes smaller riparian management area widths  
16197 (compared to other alternatives except no action) along intermittent streams, lakes, and ponds in the  
16198 areas covered by the INFISH forest plan amendment (USFS 1995).

16199 Implementation of this alternative would provide limited management direction to reduce the effects  
16200 of roads on riparian habitats. Overall, this alternative would provide habitat protection for riparian  
16201 associated wildlife that is similar to the no-action alternative, less than the proposed action and  
16202 alternative O, and much less than the R and P alternatives. The viability outcome for surrogate  
16203 wildlife species would not be improved and would remain below the historical capability.

16204 **Climate Change**

16205 Some of the riparian-associated surrogate species are rated as high sensitivity to climate change  
16206 (CCSD 2013) and riparian habitats are considered vulnerable to the anticipated effects of climate  
16207 change (Lawler et al. 2014). The primary effect that is anticipated from climate change is the loss of  
16208 habitat and reduced connectivity of riparian habitats due to altered hydrologic and disturbance (fire)  
16209 regimes (Lawler et al. 2014).

16210 The emphasis of this alternative is on timber management. Because this alternative does not focus on  
16211 landscape-scale restoration, the restoration of disturbance regimes would not be emphasized. Thus,  
16212 habitat for riparian-dependent surrogate wildlife is likely to be lost at an accelerated rate due to  
16213 increased disturbances associated with climate change and some loss of riparian habitat from timber  
16214 harvest. In addition, an important adaptation for climate change for riparian habitats is to restore their  
16215 resiliency by reducing the negative effects of roads (Lawler et al. 2013). However, this alternative  
16216 has limited opportunity for managers to use to reduce road effects on riparian habitats and does not  
16217 emphasize watershed restoration.

16218 **Cumulative Effects**

16219 The adjacent Federal land managers include the Okanogan-Wenatchee National Forest to the west,  
16220 the Idaho Panhandle National Forest to the east, and the Pend Oreille National Wildlife Refuge to the  
16221 southeast. The Idaho Panhandle National Forest and the Pend Oreille National Wildlife Refuge have  
16222 management plans that reduce the negative effects of roads on wildlife habitats and to protect and  
16223 restore riparian habitats (USFWS 2000, USFS 2015). The Okanogan-Wenatchee National Forest is in  
16224 the process of revising their Forest Plan and current plan provides limited management direction to  
16225 reduce the effects of roads on wildlife habitat, and riparian habitat protections in the original Forest  
16226 Plan were found to be inadequate and were amended (INFISH, PACFISH-USFS 1995, ACS-USFS  
16227 1994).

On private lands, Washington State Forestry Practices Act provides some limited protections for riparian habitats. Management of priority watersheds emphasizes using an “all lands” approach to enhance coordination across landowners and may enhance conditions for riparian associated wildlife species. However, habitat protections for riparian habitats on Federal lands would help to mitigate for the limited protections and cumulative effects that occur on private lands.

### **Summary**

Implementation of this alternative would make a relatively low contribution to the viability of riparian-dependent surrogate wildlife species. This determination is based on the following:

- 1) This alternative would not address the negative effects that roads have on riparian habitats.
- 2) This alternative would not consolidate and make more consistent management direction for riparian habitats using standards and would have smaller riparian management areas.
- 3) This alternative would not emphasize landscape restoration that would reduce the potential effects of uncharacteristically severe fires on riparian habitats.

### **Species of Management Interest**

#### ***Deer and Elk***

#### **Direct and Indirect Effects**

Forest management activities can influence deer and elk populations and habitat use. Vegetation management activities may affect the distribution and abundance of cover and forage. Adequate forage is particularly important during the summer and fall before the following birthing season when this can have a positive effect on the condition pregnant females (Lenz 1997, Cook 1998, Cook 2002, Cook et al. 2004, Cook et al. 2005). The management of forest roads and trails can influence how deer and elk use habitats, and influence the interactions between deer and elk (Rowland et al. 2005, Wisdom et al. 2005a, b). Additionally, deer and elk can compete with domestic livestock for both food resources (Findholt et al. 2005) and space (Coe et al. 2001, Coe et al. 2005). Thus, the potential effects that vegetation management, road and trail management, and grazing management can have on deer and elk habitats and population are evaluated for each of the alternatives.

Under this alternative, cover and forage for deer and elk on winter ranges emphasizes the retention of winter thermal cover. Considerable research has shown that the management of deer and elk winter habitat should be less focused on the retention of thermal cover, and more focused on the availability of forage on summer and fall habitats (see Cook et al. 2005 for a review). This alternative would not incorporate the current science about the role of providing adequate forage quality and quantity in providing for deer and elk populations.

This alternative would not alter the current habitat effectiveness for deer and winter ranges through road management. The Selkirk Elk Herd has a moderate level of habitat effectiveness (moderate level of human influence) on their winter ranges. Currently, in 38 percent of the watersheds, winter habitat for deer has a high habitat effectiveness index (low level of human influence), 38 percent habitat a moderate level of habitat effectiveness (moderate level of human influence), and 24 percent habitat a low level of habitat effectiveness (high level of human influence). Management direction for winter ranges is based on road density standards. Rowland et al. (2005) found road density to be a poor indicator of habitat use by deer and elk and recommended the use of the zone of influence instead. This is incorporated into the proposed action and alternative R and P.



Under this alternative, there would be no changes to current grazing practices that occur on national forest allotments. Degraded range conditions would be maintained or slowly be improved, likely having effects to deer and elk habitat use and populations (Coe et al. 2001, 2005; Findholt et al. 2005). More robust range management direction (as in the other alternatives) would not be adopted.

### **Climate Change**

Deer and elk have a low level of sensitivity to the effects of climate change due to their ability to tolerate a relatively wide range of climatic conditions, their high mobility, and as habitat generalists (CCSD 2013). However, alternatives that restore landscape pattern and functions while reducing the effects of roads on deer and elk summer and winter habitats would provide more resilience deer and elk populations. This alternative does not emphasize landscape-scale restoration and nor does it provide consistent and effective management direction for roads that would restore habitat effectiveness for deer and elk.

### **Cumulative Effects**

The historical cattle and sheep grazing that occurred on portions of the Forest severely degraded range conditions (Wissmar et al. 1994, Bunting et al. 2002). These conditions, combined with current domestic (cattle) and wild ungulate grazing (primarily elk and deer), have resulted maintenance or slow recovery of poor range conditions in some areas (Wissmar et al. 1994, Bunting et al. 2002). In turn, these poor range conditions have had negative effects on some important unique habitats such as riparian areas and meadows (Beebe et al. 2002, Evans 2006, Lehmkuhl et al. 2013). This alternative would not result in more rigorous grazing management direction that would help to address this situation.

Winter ranges for the deer and elk occur on Federal lands, adjacent Wildlife Management Areas managed by the State, and private lands. Elk herd management plans (WDFW 2001) provide guidance for elk management on state lands and make recommendations for elk management on Forestlands. Management plans for deer include the White-tailed Deer Management Plan that provides direction to manage hunting to either maintain deer populations (WDFW 2010) and a general plan for mule deer (WDFW 2008), which are widely distributed across the Forest. A considerable amount of historical winter range for deer and elk is now in private land ownership or under the waters of Lake Roosevelt (created by the Grand Coulee dam). The cumulative effects of existing management plans (State and Federal lands) would provide for the conditions that contribute to sustainable populations of deer and elk, while considering the effects of private land development.

### **Summary**

The implementation of alternative B would make a relatively low contribution to the conditions that support sustainable populations of deer and elk. This is based on the following:

- 1) This alternative would not address new science that recommends de-emphasizing the importance of winter thermal cover and increasing the emphasis on summer and fall forage quality and quantity.
- 2) This alternative does not provide consistent and effective direction on the management of roads and trails to restore habitat effectiveness on deer and elk summer and winter ranges.
- 3) This alternative would not include more rigorous management direction to improve the conditions of key habitats, such as riparian areas and meadows that are in poor condition due to the cumulative effects of past grazing practices, and current domestic and wild ungulate grazing.

16312 **Alternative O**

16313 **Federally Listed Wildlife Species**

16314 *Grizzly Bear*

16315 **Direct and Indirect Effects**

16316 Forest activities that influence the recovery of the grizzly bear include: human access that can  
16317 displace bears from important seasonal habitats or increase the risk of bear-human interactions,  
16318 disposal of livestock carcasses within range allotments to avoid attracting bears to a potential food  
16319 source, and the storage of food and garbage at recreation sites to reduce the potential for bears to  
16320 associate humans with food sources.

16321 Management of grizzly bears does not vary between alternatives. Existing management direction  
16322 provides standards for human access, disposal of livestock carcasses, and food and garbage storage  
16323 within the Selkirk Grizzly Bear Recovery Area (IGBC 1998, USDA 1988, USFWS 1993, USDI  
16324 2001). Existing standards have largely been met and would continue to be followed.

16325 **Climate Change**

16326 Grizzly bears have been identified as having a low sensitivity to climate change because they are  
16327 opportunistic, eat a diverse array of food resources, and are highly adaptable (Servheen and Cross  
16328 2010, CCSD 2013). Anticipated impacts may include changes in the timing of denning due to longer  
16329 snow-free periods and reduced snowpack (Lawler et al. 2014) and changes in the availability of food  
16330 sources (Servheen and Cross 2010). These changes may put bears at risk of negative human  
16331 interactions for a longer period of time each year (Servheen and Cross 2010). This would make  
16332 education, proper food and garbage storage, carcass disposal measures, and human access  
16333 management that much more important.

16334 **Cumulative Effects**

16335 The primary reason for the low population of grizzly bears in the recovery zone is past persecution  
16336 and human-caused mortality of bears. Legal protections are now in place to protect grizzly bears.  
16337 Information and education programs, sanitation measures, and access management have and would  
16338 continue to be used to aid in the recovery of grizzly bears in the Selkirk Recovery Area.

16339 Past, present and reasonable foreseeable future actions that could affect grizzly bears include timber  
16340 harvest and associated road construction, recreational activities that can cause disturbance to bear  
16341 and create potential for human-bear conflicts, and human development that fragment grizzly bear  
16342 habitat. Cumulative effects are evaluated across the Recovery Area by tracking activities within  
16343 Grizzly Bear Management Units (GBMUs). Other land managers have adopted and are following  
16344 similar management direction (IPNF 2015) and overall recovery is coordinated by the Selkirk  
16345 Grizzly Bear Management Subcommittee. GBMUs that occur on the Colville National Forest include  
16346 the LeClerc, Salmo-Priest, and Sullivan-Hughes. The contribution made on Federal lands to grizzly  
16347 bear recovery would help to mitigate potential cumulative effects from off-forest activities. However,  
16348 because this alternative does not address reducing the negative impacts of roads on wildlife habitats  
16349 like in the proposed action and alternatives R and P, it does less to mitigate cumulative effects.

16350 Border Patrol activities on the Forest have the potential to cause disturbance through use of roads or  
16351 trails that are normally closed to motorized use. The exact extent or amount of the impact over the  
16352 life of the plan is difficult to predict because many factors could influence Border Patrol activities.

Fuels reduction projects are possible on all land ownerships, in particular where they are near residences. These can be done in such a way that they restore wildlife habitat that has been affected by fire exclusion.

Recreation is likely to increase on all land ownerships due to increasing demands. This would increase human disturbance and result in NFS lands that have relatively low human disturbance (e.g., core areas) to become more important to wildlife such as grizzly bears.

Black bear hunting on both sides of the international border within the Selkirk Recovery Area has the potential to add cumulatively to the mortality of grizzly bears. Hunters that encounter grizzly bears may mistakenly identify the bear, kill the bear in self-defense, or opportunistically poach the bear. Human access management within the recovery area is key to reducing the risk of mortality to grizzly bears from black bear hunting.

On private lands, the presence of garbage, pet food, fruit trees, or other attractants may lure bears into conflict situations. Bears that become habituated or a nuisance may lead to the bear being killed.

### **Summary**

This alternative would make a relatively high contribution to the recovery of grizzly bears in the Selkirk Recovery Area and would result in a May Affect, Not Likely to Adversely Affect determination. This is based on the existing management direction, followed in all alternatives, that addresses:

- 1) Human access management,
- 2) Disposal of carcasses in range allotments that occur in the recovery area, and
- 3) Proper storage of food, garbage and other attractants that may lead to human-bear interactions.

### ***Canada Lynx***

#### **Direct and Indirect Effects**

The forest management activities that influence the recovery and conservation of Canada lynx include: vegetation management that affects lynx habitat components, winter recreation that influences habitat connectivity and lynx habitat use, forest roads that can become sources of lynx mortality at high traffic volumes and speeds, and grazing effects to riparian areas that provide habitat for snowshoe hares, a primary food resource for lynx (ILBT 2013). The Interagency Lynx Biology Team (ILBT 2013) developed conservation measures for core and secondary areas (USFWS 2005) to address each of these forest management activities, and for planners to consult when revising forest plans. These were used to evaluate the potential contribution of forest management alternatives to the recovery of Canada lynx.

When the USFWS reviewed existing regulatory mechanisms to determine if listing Canada lynx as a federally protected species was warranted, they determined that existing forest plans provided inadequate protections (USFWS 2003). Several national forests within the range of the Canada lynx subsequently amended their forest plans using the original Lynx Conservation Assessment and Strategy (LCAS) (Ruediger et al. 2000) as a basis for current science. However, forest plans in Region 6 were not amended, thus existing management plans do not address recent science and conservation recommendations (ILBT 2013), recovery objectives (USFWS 2005), or critical habitat (USFWS 2009). This alternative does not include management direction for Canada lynx.

Vegetation management activities affect the distribution of lynx habitat components, can fragment habitats, and create sources of disturbance (ILBT 2013). The LCAS recommended conservation measures for vegetation management apply to lynx core and secondary areas and include use of the natural range of variability to mimic pattern and scale of natural disturbances and connectivity across the landscape while considering the future climate change (ILBT 2013). A conservation measure focused on the restoration of disturbance regimes in dry forests that occur in close proximity to lynx habitat to reduce the risk of uncharacteristically severe and frequent fires reaching lynx habitat. A final recommended in the LCAS is a conservation measure to limit the amount of vegetation management and the rate of habitat change (e.g., acres treated/decade) within lynx analysis units. There is no management direction in this alternative that addresses these conservation measures.

Conservation measures were identified to address the effects that highways have on habitat connectivity for lynx in core areas (ILBT 2013). The Kettle-Wedge is a Core Area on the Colville National Forest.

Winter recreation can influence how lynx use habitats (ILBT 2013). To minimize the potential negative effects from winter recreation, the ILBT (2013) developed conservation measures for lynx core areas that include reducing effects on habitat connectivity and discouraging expansion of over-the-snow routes that may influence lynx habitat use (ILBT 2013). This alternative does not address effects of over-the-snow recreation on lynx habitat.

The conservation measures for forest roads in lynx core areas include avoiding road reconstruction or upgrades that occur in lynx habitat and would result in increased traffic speeds or volumes (ILBT 2013). These measures would reduce the potential for vehicular traffic to result in a source of mortality to lynx. There is no management direction in this alternative to address this conservation measure.

The conservation measures for grazing in lynx core areas include management of riparian areas to assure adequate habitat for snowshoe hares, the primary prey species for Canada lynx (ILBT 2013). This alternative includes management direction for grazing in riparian areas to provide for habitat for listed fish species, but does not include anything specific to Canada lynx or snowshoe hares.

Alternative O would provide limited management direction to address the direct and indirect effects of forest management activities on the recovery of Canada lynx. Alternative O would make limited contributions to the recovery of Canada lynx, less than the proposed action, R and P alternatives, and similar to no action and alternative B.

### **Climate Change**

The potential effects of climate change on Canada lynx identified by the Interagency Lynx Biology Team (2013) included: (1) An upward shift in elevation or latitudinal distribution of lynx and prey, (2) A decrease in the amount of habitat and population size from reduced snow persistence and increased disturbance events (e.g., fires), (3) Changes in demographic rates, such as survival and reproduction, and (4) Changes in predator-prey relationships.

Climate change adaptations to address these effects include restoration of landscape-scale disturbance regimes to better mimic natural patterns and processes (Spies et al. 2010, Gaines et al. 2012, Lawler et al. 2014), and maintaining or restoring habitat connectivity to allow Canada lynx to adjust their ranges to changing conditions (Heller and Zavaleta 2009, ILBT 2013, Squires et al. 2013). There is limited management direction in this alternative to address these climate change adaptations.

**Cumulative Effects**

Past, present, and reasonably foreseeable actions that affect lynx habitat include timber harvest and fuels reduction, recreation, human development, and grazing on private and public lands. In addition, legal trapping of lynx, timber harvest, oil and gas development, mining and human access in British Columbia have and would continue to affect Canada lynx habitat.

Past vegetation management and large scale fires on the Forest within lynx habitat has resulted in a distribution and amount of successional stages (early, mid, late) that are outside the HRV. This alternative would not emphasize vegetation management activities to restore lynx habitats toward the HRV.

Border Patrol activities on the Forest have the potential to cause disturbance through use of roads or trails that are normally closed to motorized use. The exact extent or amount of the impact over the life of the plan is difficult to predict because many factors could influence Border Patrol activities.

Grazing has occurred and would continue to take place on off-forest lands potentially impacting deciduous or riparian habitats for lynx prey species.

Fuels reduction projects are possible on all land ownerships, in particular where they are near residences. These can be done in such a way that they restore wildlife habitat that has been affected by fire exclusion.

Recreation is likely to increase on all land ownerships due to increasing demands. This would increase human disturbance and result in NFS lands that have relatively low human disturbance to become more important to wildlife.

All Federal lands within Canada lynx core and secondary areas would use the Lynx Conservation Assessment and Strategy (LCAS) (ILBT 2013) as current science to guide project level consultation and land management planning. The North Cascades National Park Complex recently revised their management plan to include the LCAS (NPS 2012). The Idaho Panhandle National Forest land management plan was recently revised to address the conservation measures identified in the LCAS (USFS 2015). The conservation of lynx on WDNR lands is guided by the Department of Natural Resources Lynx Habitat Management Plan (WDNR 1996, updated in 2002). The management plan for the Pend Oreille National Wildlife Refuge provides conservation measures to contribute to the recovery and viability of Canada lynx (USFWS 2000). Collectively, these management plans have addressed many of the conservation measures identified for Canada lynx (ILBT 2013) and would help mitigate potential cumulative effects that may occur from off-forest activities. In addition, no critical habitat was identified on the Colville National Forest or on adjacent lands (USFWS 2009).

In Canada, timber harvesting, oil and gas development, coal mining, and the proliferation of human access associated with these industries, have and would continue to affect lynx habitat. Legal trapping occurs north of the Forest in Canada and could reduce the potential for lynx to disperse into the lynx habitat on the Forest. Trapping is not legal in Idaho, Montana, or Washington.

**Summary**

Alternative O would make a relatively low contribution to the recovery of the Canada lynx in both the short (less than 20 years) and long (less than 50 years) term, and result in a May Effect, Likely to Adversely Affect determination. This is because of the following:

- 1) This alternative does not address the best available science and conservation measures identified in the recent version of the Lynx Conservation Assessment and Strategy (ILBT 2013), or USFWS Recovery Outline (USFWS 2005);
- 2) This alternative does not address recommended climate change adaptations; and
- 3) Existing regulatory mechanisms (management plans) were found to be inadequate to address the threats to Canada lynx (USFWS 2003).

## Late-successional and Old Forest Habitats (Federally Listed Wildlife Species)

### *Woodland Caribou*

#### **Direct and Indirect Effects**

The forest management activities that can influence the recovery and viability of woodland caribou include: (1) Vegetation management and natural disturbances that affect the amount and connectivity of late-successional and old forest habitats of Engelmann spruce/subalpine fir and western redcedar/western hemlock. (2) Human access can increase the potential for poaching and cause disturbance to caribou during the critical winter period. These effects were used to evaluate the potential contribution of each alternative to the recovery of woodland caribou.

This alternative would implement new science, recommendations from the Biological Opinion issued in 2001 (USFWS 2001) on the 1988 forest plan (USFS 1988), and address the critical habitat designation (USFWS 2012). Vegetation management attempts to balance providing forest conditions for suitable caribou habitat while providing for timber production. Timber harvest has been cited as one of the primary factors that has reduced and fragmented old growth habitats for woodland caribou (USFWS 1994, USFWS 2012).

A term and condition of the 2001 Biological Opinion was that the Forest develop a winter recreation strategy that protects important winter habitats for caribou while providing some level of winter recreation access. The strategy includes information and education about the effects of winter recreation on wildlife, monitoring and enforcement of areas closed to over-the-snow activities, and limitations on permitted over-the-snow activities. Collectively, these actions have reduced the impacts of winter recreation on caribou habitat while providing recreational opportunities in areas and at the time of the winter season when effects to caribou are minimal. This strategy was developed (USFS 2002) and would be fully integrated into this alternative. However, this alternative would not emphasize reducing the negative effects of forest roads on wildlife habitat.

#### **Climate Change**

Climate change would likely alter the distribution and abundance of suitable caribou habitat, and would change snow depths and persistence, which affect seasonal movements of mountain caribou (WDFW 2012). The potential effects of climate change depend on the interaction of seasonal temperatures and snowfall patterns and occurrence of wildfires, outbreaks of forest insects, and diseases (Mountain Caribou Science Team 2005). Management adaptations to address the effects of climate change include a focus on forest restoration and reducing non-climatic factors that affect wildlife populations (e.g., restoring habitat effectiveness impacted by roads). This alternative would not implement these adaptations.

#### **Cumulative Effects**

The caribou recovery area is 1,477 square miles in size and includes the Colville National Forest, Idaho Panhandle National Forest, Idaho Department of Lands, and British Columbia. About 47 percent of the recovery area is in the United States and 53 percent in British Columbia. The Idaho

- 16520 Panhandle National Forest recently revised the forest plan to address habitat and risk factors  
16521 identified in the caribou recovery plan and critical habitat (USFS 2015). The caribou recovery team  
16522 works cooperatively to address cumulative effects on woodland caribou.
- 16523 Past activities on the Forest have impacted caribou habitat. Over-the-snow motorized use, prior to  
16524 the implementation of the Winter Recreation Strategy (USFS 2003), may have caused disturbance to  
16525 caribou. The alternative would continue with implementation of the Winter Recreation Strategy,  
16526 limiting the cumulative effects on caribou.
- 16527 Past vegetation management and disturbances on the Forest have resulted in the distribution and  
16528 arrangement of successional stages (early, mid, late) that are outside the HRV. Presently, more of the  
16529 landscape is in med-successional and less in late-successional habitats compared to HRV. This  
16530 alternative would not manage habitats toward HRV, and would not be as effective as the proposed  
16531 action and alternative P at mitigating for the cumulative effects of off-forest timber harvest.
- 16532 Border Patrol activities on the Forest have the potential to cause disturbance through use of roads or  
16533 trails that are normally closed to motorized use. The exact extent or amount of the impact over the  
16534 life of the plan is difficult to predict because many factors could influence Border Patrol activities.
- 16535 Fuels reduction projects are possible on all land ownerships, in particular where they are near  
16536 residences. These can be done in such a way that they restore wildlife habitat that has been affected  
16537 by fire exclusion.
- 16538 Recreation is likely to increase on all land ownerships due to increasing demands. This would  
16539 increase human disturbance and result in NFS lands that have relatively low human disturbance to  
16540 become more important to wildlife such as caribou. However, because this alternative does not  
16541 address the negative impacts of roads on wildlife habitat, it provides less opportunity to mitigate the  
16542 cumulative effects of recreation.
- 16543 Big game hunting continues on both sides of the U.S./Canada border. Encounters with hunters may  
16544 result in caribou mortality as a result of mistaken identification. Legal harvest of caribou by Treaty  
16545 Indians does occur, but with few statistics on the number of animals taken it is difficult to evaluate  
16546 the influence of this on the caribou population. Fatal collisions with vehicles occur on open roads in  
16547 caribou habitat and are likely to continue. Predation by mountain lions, wolves, and other predators  
16548 would continue, with the effect on the caribou population dependent on big game populations,  
16549 predator populations and a variety of other factors.
- 16550 One important factor is how the Canadian officials decide to manage this herd. In the British  
16551 Columbia portion of the recovery area, human activities that have a would continue to impact  
16552 caribou habitat include gas, powerline, and international border corridors, recreation activities,  
16553 timber harvest, and highways.
- 16554 **Summary**
- 16555 The implementation of this alternative would have a May Affect, Likely to Adversely Affect  
16556 determination for woodland caribou. It would make a moderate contribution to the recovery of  
16557 woodland caribou. The reasons for this determination are:
- 16558 1) This alternative would address new science and risk factors identified in the recovery plan  
16559 and critical habitat, but does not emphasize forest restoration as in the proposed action and  
16560 alternative P.
  - 16561 2) This alternative would formally adopt the winter recreation strategy for caribou habitat that  
16562 was a Term and Condition of the 2001 Biological Opinion.

- 3) This alternative attempts to balance the protection of caribou habitat with timber production, but does not address expected climate change effects that would enhance forest resiliency to the degree that other alternatives do.

### *Surrogate Wildlife Species*

#### **Direct and Indirect Effects**

Forest activities that directly influence the viability of late-successional and old forest (LSOF) dependent surrogate species include: the loss of LSOF habitat from fire (Healy et al. 2008, Davis et al. 2011), vegetation treatments (e.g., timber harvest, thinning, prescribed fire) that affect forest structure (e.g., canopy closure, snags, downed wood)(Healy et al. 2008, Wisdom et al. 2008, Davis et al. 2011), management of roads that influence habitat effectiveness (Gaines et al. 2003), and protection of riparian areas which are an important element of LSOF habitats for some species (e.g., Bald eagles).

The management direction for LSOF species is similar to no action, and is based on a system of small management areas that retains LSOF habitat for specific Management Indicator Species (e.g., American marten, barred owl, pileated woodpecker). These areas range in size from 75 to 300 acres, are relatively equally distributed, but have no way to provide for habitat connectivity between or among the small islands of habitat. These small islands of habitat are also highly susceptible to disturbances such as fire, insects, and tree diseases, with no redundancy or replacement habitat in the event they are lost. This system was based on minimizing the effects of protection of LSOF habitat on the timber harvest level. This system was deemed inadequate to provide for the viability of LSOF species and thus Forest Plans were amended with the Eastside Screens (USFS 1995). The intent was for the Eastside Screens to provide interim direction until the Forest Plan was revised.

The area in-between the small islands of LSOF habitat is managed primarily through even-aged timber production, with some protections for elements of LSOF habitat, such as snags and downed wood. However, the combination of roads and timber harvest generally results in these areas having snag habitat below levels that would maintain viable populations of snag-dependent wildlife species. Again, the management direction in the original Forest Plan, and used in this alternative, was deemed inadequate, thus additional direction was adopted through the Eastside Screens (USFS 1995). The intent of the Eastside Screens was to serve as interim direction until the Forest Plan was revised. The Eastside Screens restrict the cutting of trees greater than 21 inches in diameter.

This alternative would not provide management direction that would reduce the negative effects of roads on wildlife habitats. Currently, there are about 4,000 miles of road, resulting in an overall road density on the roaded portion of the Forest of about 3 miles per square mile, which is considered a low level of habitat effectiveness for many surrogate species (Wisdom et al. 2000, Gaines et al. 2003).

Overall, alternative O would provide management direction for LSOF habitat that is similar to no action and alternative B, but would provide less habitat than alternatives R and P. This alternative would not improve the viability outcomes for surrogate wildlife species that are dependent on LSOF habitats in the short (less than 20 years) and long (less than 50 years) time periods.

#### **Climate Change**

The sensitivity of LSOF associated surrogate wildlife species to the effects of climate change were identified as medium for pileated woodpecker, and high for northern goshawk and American marten



16605 (CCSD 2013). The primary effect of climate change is the loss of LSOF habitats due to altered  
16606 disturbance regimes (CCSD 2013).

16607 Since the mid-1980s, the size and intensity of large wildfires in the western United States have  
16608 increased markedly (Westerling et al. 2006), due, in part, to a reduction in fuel moisture driven by  
16609 increased temperature and lower snowpack. Increases in fire risk and severity have been also been  
16610 driven, in part, by increased fuel loads because of fire suppression practices used over the last  
16611 century (McKenzie et al. 2004). Predicted increases in spring and summer temperature identified in  
16612 many climate change models would exacerbate the frequency and intensity of disturbances such as  
16613 fire (McKenzie et al. 2004, Wotton and Flannigan 1993) and defoliation caused by forest insects  
16614 (Littell et al. 2009). In the interior Columbia Basin, Littell et al. (2009) predicted that the area burned  
16615 is likely to double or even triple by 2050. Climate-driven changes in fire regimes would likely be the  
16616 dominant driver of changes to forests and LSOF habitats in the western United States over the next  
16617 century (McKenzie et al. 2004).

16618 A landscape restoration approach is not emphasized in this alternative. Landscape-scale restoration  
16619 has been identified as an adaptive strategy to create landscapes more resilient to climate change  
16620 (Spies et al. 2010, Gaines et al. 2012) and to maintain late-successional and old forest habitat  
16621 structures (Lawler et al. 2014). The emphasis on restoration of resiliency would result in landscapes,  
16622 including disturbance regimes that are more resilient to climate change through the application of  
16623 strategically located restoration treatments in priority locations (Noss et al. 2006, Spies et al. 2006,  
16624 Gaines et al. 2010, Franklin and Johnson 2012). By strategically locating restoration treatments,  
16625 landscape-scale fire behavior may be altered to be more similar to native disturbance regimes and the  
16626 risk of loss of LSOF habitat to uncharacteristically severe fires may be reduced (Finney 2001, Finney  
16627 et al. 2006, Ager et al. 2007, Lehmkuhl et al. 2007).

#### 16628 **Cumulative Effects**

16629 The adjacent Federal land managers include the Okanogan-Wenatchee National Forest to the west,  
16630 the Idaho Panhandle National Forest to the east, and the Pend Oreille National Wildlife Refuge to the  
16631 southeast. The Idaho Panhandle National Forest and the Pend Oreille National Wildlife Refuge have  
16632 management plans that reduce the negative effects of roads on wildlife habitats and to protect and  
16633 restore LSOF habitats (USFWS 2000, USFS 2015). The Okanogan-Wenatchee National Forest is in  
16634 the process of revising their Forest Plan and current plan provides limited management direction to  
16635 reduce the effects of roads on wildlife habitat, and LSOF habitat protections in the original Forest  
16636 Plan were found to be inadequate and were amended by the Eastside Screens USFS 1995).

16637 Past vegetation management and disturbances on the Forest have resulted in the distribution and  
16638 arrangement of successional stages (early, mid, late) that are outside the HRV. Presently, more of the  
16639 landscape is in med-successional and less in late-successional habitats compared to HRV. This  
16640 alternative would not manage habitats toward HRV, and would not be as effective as the proposed  
16641 action and alternative P at mitigating for the cumulative effects of off-forest timber harvest.

16642 Fuels reduction projects are possible on all land ownerships, in particular where they are near  
16643 residences. These can be done in such a way that they restore wildlife habitat that has been affected  
16644 by fire exclusion.

16645 Border Patrol activities on the Forest have the potential to cause disturbance through use of roads or  
16646 trails that are normally closed to motorized use. The exact extent or amount of the impact over the  
16647 life of the plan is difficult to predict because many factors could influence Border Patrol activities.  
16648 Recreation is likely to increase on all land ownerships due to increasing demands. This would

16649 increase human disturbance and result in NFS lands that have relatively low human disturbance to  
16650 become more important to wildlife.

16651 **Summary**

16652 Implementation of this alternative would make a relatively low contribution to the viability of LSOF  
16653 dependent surrogate wildlife species. This determination is based on the following:

- 16654 1) The LSOF habitat provided by this alternative would not maintain viable populations of  
16655 LSOF surrogate wildlife species.
- 16656 2) This alternative does not emphasize restoration of landscape resiliency to reduce the loss of  
16657 LSOF habitats to uncharacteristically severe wildfires.
- 16658 3) The protection and conservation of key elements of LSOF habitat such as large trees and  
16659 snags, and riparian areas is minimal.
- 16660 4) The alternative would not result in the restoration of habitat effectiveness by reducing the  
16661 negative effects of roads on LSOF habitats.

16662 **Motorized Recreation and Road Access**

16663 *Surrogate Wildlife Species*

16664 **Direct and Indirect Effects**

16665 Motorized recreation and the use of forest roads influence the viability of surrogate wildlife species.  
16666 These potential effects include displacement from key habitats, disturbance during critical periods,  
16667 and the risk of mortality caused by collisions with vehicles (see Wisdom et al. 2000 and Gaines et al.  
16668 2003 for a complete list of road and trail associated factors that influence wildlife). The effects of  
16669 motorized recreation and roads can occur during the non-winter period or during the winter period  
16670 when snowmobiling or ski-trail grooming occurs.

16671 Implementation of this alternative would have limited opportunity to reduce the negative effects of  
16672 roads on surrogate species habitats because management direction for roads would be for no net loss  
16673 of road miles (approximately 4,000 miles) and only address big-game species. Currently, the average  
16674 road density (not counting the wilderness and recommended wilderness) is about 3.0 miles per  
16675 square mile, which is a low level of habitat effectiveness (Wisdom et al. 2000) for surrogate wildlife  
16676 species.

16677 This alternative would not reduce the impacts of winter or summer-motorized trail use on surrogate  
16678 species habitat effectiveness. Overall, this alternative would provide a level of habitat effectiveness  
16679 for surrogate wildlife that is similar to no action and alternative B, and less than the proposed action,  
16680 R, and P alternatives. This alternative would not improve the viability outcome for surrogate species  
16681 used to assess the effects of road and motorized trails.

16682 **Climate Change**

16683 The sensitivity of surrogate wildlife species used to assess the effects of roads and motorized  
16684 recreation is rated as moderate for bighorn sheep, and high for Harlequin duck, Canada lynx, and  
16685 wolverine (CCSD 2013). An important climate change adaptation that has been recommended for  
16686 wildlife is to reduce the negative effects of roads (and trails) on habitat (Gaines et al. 2012, Lawler et  
16687 al. 2014). By reducing the negative effects of roads, habitats (especially riparian and wetland  
16688 habitats) can become more resilient to the effects of climate change, and habitat connectivity can be  
16689 restored allowing wildlife to adjust their ranges as conditions change. The implementation of this

16690 alternative includes management direction to make very limited improvement to habitat effectiveness  
16691 for surrogate wildlife by reducing road impacts and densities.

16692 **Cumulative Effects**

16693 The adjacent Federal land managers include the Okanogan-Wenatchee National Forest to the west,  
16694 the Idaho Panhandle National Forest to the east, and the Pend Oreille National Wildlife Refuge to the  
16695 southeast. The Idaho Panhandle National Forest and the Pend Oreille National Wildlife Refuge have  
16696 management plans that reduce the negative effects of roads on wildlife habitats and restore habitat  
16697 effectiveness (USFWS 2000, USFS 2015). The Okanogan-Wenatchee National Forest is in the  
16698 process of revising their Forest Plan and current plan provides limited management direction to  
16699 reduce the effects of roads on wildlife habitat, mostly focused on big-game species.

16700 The limited emphasis of this alternative on reducing the negative effects of roads on wildlife and  
16701 continued development of private lands (located mostly in east-west valley bottoms that bisect the  
16702 Okanogan-Wenatchee National Forest) means that management of roads and motorized trails on  
16703 Federal lands is even more important to the viability of surrogate wildlife species.

16704 Border Patrol activities on the Forest have the potential to cause disturbance through use of roads or  
16705 trails that are normally closed to motorized use. The exact extent or amount of the impact over the  
16706 life of the plan is difficult to predict because many factors could influence Border Patrol activities.  
16707 Recreation is likely to increase on all land ownerships due to increasing demands. This would  
16708 increase human disturbance and result in NFS lands that have relatively low human disturbance to  
16709 become more important to wildlife.

16710 **Summary**

16711 Implementation of this alternative would make a relatively low contribution to the viability of  
16712 surrogate wildlife species whose habitats are influenced by motorized access. This would occur  
16713 because:

- 16714 1) The alternative includes limited management direction to reduce the impact of roads on  
16715 habitat effectiveness for surrogate wildlife species.
- 16716 2) This alternative does not reduce the impacts summer or winter-motorized trails have of  
16717 habitat effectiveness for surrogate wildlife species in two watersheds.
- 16718 3) This alternative does little to address the cumulative effects for human access and  
16719 development on wildlife habitats.

16720 **Livestock Grazing**

16721 *Surrogate Wildlife Species*

16722 **Direct and Indirect Effects**

16723 Grazing can influence habitats of surrogate wildlife species by removing key habitat elements (e.g.,  
16724 dense shrubs for MacGillivray's warbler and fox sparrow), especially in riparian habitats. It can also  
16725 alter disturbance regimes that maintain habitat structure (e.g., frequent fires in dry forests and  
16726 grasslands keep open canopy for western bluebird), and influence the availability of important prey  
16727 items (e.g., squirrels for golden eagles). To address the potential effects on surrogate wildlife species,  
16728 the management direction regarding grazing in riparian habitat and upland habitats for each  
16729 alternative was assessed.

This alternative would include management direction for riparian habitats relying mostly on guidelines (not Standards as in R and P alternatives). Presently, some riparian habitats are in poor condition due to the effects of past and current grazing. The plan direction for this alternative would make a modest improvement on altering the distribution of livestock that would allow riparian habitats to recover.

This alternative includes ecologically based desired conditions for upland non-forest habitats (e.g., rangeland and alpine habitats) and guidelines to protect unique habitats. This alternative would not alter the number of livestock, the intensity of grazing, or the amount of area grazed. Presently, 73 percent of the Forest is in a livestock allotment and animal unit months (AUMs) average about 25,000 per year. However, management direction could result in some adjustments to the distribution of cattle and the intensity of grazing within specific habitats, such as unique habitats. This alternative would make modest improvement to the viability outcomes for surrogate wildlife species used to assess the effects of grazing.

### **Climate Change**

Habitats that are particularly sensitive to the effects of climate change include riparian areas (including wetlands) and alpine areas (Lawler et al. 2014). A management adaptation to make these habitats more resilient to climate change is to reduce the effects of non-climatic stressors (e.g., roads, intense grazing, etc.) (Lawler et al. 2014). This alternative includes management direction that would help to restore the resiliency of habitats that are sensitive to climate change.

### **Cumulative Effects**

Grazing occurs on nearby private, State, tribal, and Federal lands. Where grazing is allowed on the adjacent Okanogan-Wenatchee National Forest and Idaho Panhandle National Forest, it is managed to accommodate other public land uses, such as contributing to the viability of surrogate wildlife species. On the adjacent Little Pend Oreille Wildlife Refuge, livestock grazing was reduced over time to allow restoration of riparian habitats, and is currently only used to achieve specific wildlife habitat objectives (USFWS 2000). Grazing on non-Federal lands increases the need to provide for wildlife habitats on Federal lands that contribute to the viability of surrogate wildlife species. This alternative includes management direction for some key habitats that would better account for the cumulative effects of grazing on wildlife habitats.

### **Summary**

Implementation of this alternative would make a moderate contribution to viability for surrogate wildlife species that are influenced by domestic grazing. This determination is based on:

- 1) This alternative does include management direction for riparian habitat that would reduce the negative effects of grazing and improve riparian habitat condition.
- 2) This alternative would not change the number or grazing intensity, but may alter the distribution of livestock to protect some unique habitats.
- 3) This alternative would include management direction that could make habitats that are sensitive to the effects of climate change more resilient.

16768 **Habitat Connectivity**

16769 *Surrogate Wildlife Species*

16770 **Direct and Indirect Effects**

16771 A number of forest management activities influence habitat connectivity for surrogate wildlife  
16772 species. These include the amount, patch sizes, and spatial arrangement of suitable habitats; location  
16773 and density of motorized travel routes, especially in relation to riparian and LSOF habitats. These are  
16774 addressed in the evaluation of how forest management alternatives would affect habitat connectivity  
16775 for surrogate wildlife species.

16776 This alternative emphasizes providing habitat connectivity for LSOF species through the  
16777 identification of connectivity corridors during project planning (as per Eastside Screens, USFS  
16778 1995). Additional provisions for low to moderate mobility LSOF species are provided through  
16779 Riparian Management Zones. No management direction addresses habitat connectivity for wildlife  
16780 species that are not associated with LSOF habitats (e.g., wide-ranging carnivores, Singleton et al.  
16781 2002).

16782 Implementation of this alternative would have limited opportunity to reduce the negative effects of  
16783 roads on surrogate species habitats because management direction for roads would be for no net loss  
16784 of road miles (approximately 4,000 miles) and emphasizes mostly big-game species. Currently, the  
16785 average road density (not counting the wilderness and recommended wilderness) is about 3.0 miles  
16786 per square mile, which is a low level of habitat effectiveness for surrogate wildlife species (Wisdom  
16787 et al. 2000).

16788 **Climate Change**

16789 Maintaining and restoring ecological connectivity is the most oft-cited climate adaptation strategy  
16790 for biodiversity conservation (Heller and Zavaleta 2009, Opham and Wascher 2004, Parmesan 2006,  
16791 Spies et al. 2010) and has been identified as an important adaptation strategy for wildlife in northeast  
16792 Washington (Gaines et al. 2012). This is because species' range shifts have been the primary  
16793 biological response to past episodes of climatic change, yet widespread anthropogenic barriers to  
16794 movement would now challenge species' ability to respond (Price 2002, Thomas and Lennon 1999,  
16795 Wormworth and Mallon 2006).

16796 This alternative does provide direction to address habitat connectivity for some highly mobile LSOF  
16797 wildlife species. However, there is no management direction that addresses habitat connectivity for  
16798 wildlife species not associated with LSOF habitats (e.g., wide-ranging carnivores), nor does this  
16799 alternative address the effects of forest roads on habitat connectivity.

16800 **Cumulative Effects**

16801 Past, present, and reasonably foreseeable human developments and transportation infrastructure,  
16802 along with land ownership patterns create cumulative impacts that limit options to conserve and  
16803 restore regional connectivity. Regional habitat connectivity has been evaluated for a variety of  
16804 wildlife species, including the surrogate wildlife species used to evaluate connectivity in this  
16805 planning area (Singleton et al. 2002, WWHCWG 2010, Proctor et al. 2015). These assessments have  
16806 shown the importance of the Colville National Forest in providing stepping-stone habitats between  
16807 the Cascades and Selkirk Mountains (Singleton et al. 2002, WWHCWG 2010). Connectivity from  
16808 the Cascades to the Kettle Range to the Selkirk Mountains is interrupted by transportation corridors  
16809 and human developments associated with the Okanogan, Upper Columbia, and Pend Oreille river  
16810 valleys (Singleton et al. 2002, WWHCWG 2010). Additionally, connectivity planning in southern

British Columbia identified linkage areas that could greatly enhance wildlife movements between the Selkirk Mountains and Purcell Mountains (Apps et al. 2007, Proctor et al. 2015).

Reducing the direct and indirect effects of roads on wildlife habitats would contribute to the maintenance and restoration of habitat connectivity, including cumulative effects, but is not well addressed in this alternative. Border Patrol activities on the Forest have the potential to cause disturbance through use of roads or trails that are normally closed to motorized use. The exact extent or amount of the impact over the life of the plan is difficult to predict because many factors could influence Border Patrol activities. Recreation is likely to increase on all land ownerships due to increasing demands. This would increase human disturbance and result in NFS lands that have relatively low human disturbance to become more important to wildlife.

### **Summary**

The O alternative would provide limited direction that addresses habitat connectivity, and most is relevant to wildlife species associated with LSOF habitats. Thus, the implementation of the O alternative would provide a low contribution to the viability of surrogate wildlife species used to assess habitat connectivity. The primary reasons for this conclusion include:

- 1) No management direction to address wildlife species that are not associated with LSOF habitats (e.g., wide-ranging carnivores),
- 2) Limited management direction that addresses the effects of roads and road networks on habitat connectivity, despite this being a primary factor that influences wildlife movements.

### **Snag Habitat**

#### *Surrogate Wildlife Species*

### **Direct and Indirect Effects**

Forest activities that directly influence the availability of habitat for snag-dependent surrogate species include firewood cutting (Bate et al. 2007, Hollenbeck et al. 2013), the loss of snag habitat along roads and at recreation sites from hazard tree reduction (Bate et al. 2007, Hollenbeck et al. 2013, Wisdom et al. 2008), and removal of snags during timber harvest for safety reasons (Wisdom et al. 2008). The Forest Plans includes management direction for snag habitat to address the potential loss of habitat in timber sale operations. However, this alternative includes a 21-inch diameter limit on the size of snags that can be cut for firewood.

This alternative includes 39 percent of the Forest that would be managed for even-aged timber harvest, resulting in the potential loss of snag habitat for safety reasons. An additional 33 percent of the forest would be actively managed for restoration.

Implementation of this alternative would have limited opportunity to reduce the negative effects of roads on surrogate species habitats because management direction for roads would be for no net loss of road miles (approximately 4,000 miles). Currently, the average road density (not counting the wilderness and recommended wilderness) is about 3.0 miles per square mile, which would result in a considerable loss of snag habitat for safety and hazard tree reduction (Bate et al. 2007, Hollenbeck et al. 2013, Wisdom et al. 2008).

Overall, this alternative would provide habitat protections for snag-dependent wildlife that are similar to no action and alternative B, but less than the proposed action, R, and P alternatives. This alternative would not improve the viability outcomes for snag-dependent surrogate wildlife species.

**Climate Change**

Surrogate wildlife species associated with snag habitats include the pileated woodpecker, white-headed woodpecker, black-backed woodpecker, and Lewis's woodpecker and these species are rated as medium sensitivity to climate change, and the western bluebird as high sensitivity (CCSD 2013). The primary effect that is anticipated from climate change is the loss of habitat due to altered disturbance regimes. Because this alternative does not focus on landscape-scale restoration, the restoration of disturbances regimes would not be emphasized. Thus, habitat for snag-dependent surrogate wildlife is likely to be lost at an accelerated rate due to increased disturbances associated with climate change and loss of snag habitat in the Responsible Management area from relatively intense timber harvest. The increase in fire associated with climate change could create a short-term gain in snag habitat followed by a long-term (80 to 100 years, Harrod et al. 1998) reduction as snags attrition occurs.

**Cumulative Effects**

The adjacent Federal land managers include the Okanogan-Wenatchee National Forest to the west, the Idaho Panhandle National Forest to the east, and the Pend Oreille National Wildlife Refuge to the southeast. The Idaho Panhandle National Forest and the Pend Oreille National Wildlife Refuge have management plans that reduce the negative effects of roads on wildlife habitats and more rigorous snag requirements to contribute to the viability of snag-dependent wildlife (USFWS 2000, USFS 2015). The Okanogan-Wenatchee National Forest is in the process of revising their Forest Plan and current plan provides limited management direction to reduce the effects of roads on wildlife habitats and current required snag densities make limited contribution to the viability of surrogate wildlife species. The limited management direction for snag habitat on non-Federal lands adjacent to the planning area, places additional emphasis on providing for viable populations of snag-dependent wildlife species on Federal lands. Fuels reduction projects are possible on all land ownerships, in particular where they are near residences. These can be designed in such a way that they restore wildlife habitat that has been affected by fire exclusion, but treatments can lead to the loss of snag habitat for safety reasons.

**Summary**

Implementation of this alternative would make a relatively low contribution to the viability of snag-dependent surrogate wildlife species. This determination is based on:

- 1) This alternative would not emphasize landscape restoration of habitats and disturbance regimes that directly influence the availability and condition of snag habitat.
- 2) This alternative would make no reductions in the negative effects of roads on snag habitat.
- 3) Snag habitat would be reduced due to extensive timber harvest and active management, and an extensive road network would further reduce snag habitat for safety reasons.

**Riparian Habitats**

***Surrogate Wildlife Species***

**Direct and Indirect Effects**

Forest activities that directly influence the quality and availability of habitat for riparian-dependent surrogate species include management of roads, recreation sites, and vegetation treatments that occur within riparian habitats.

In this alternative, management direction for watersheds and riparian habitats is not consolidated into one consistent set of plan components (e.g., direction is in both the existing forest plan and in the INFISH amendment). Standards and guidelines would limit management activities that are allowed to occur within riparian habitats. This alternative includes smaller riparian management area widths along intermittent streams, lakes, and ponds in the areas covered by the INFISH forest plan amendment (USFS 1995).

Implementation of this alternative would provide limited management direction to reduce the effects of roads on riparian habitats. Overall, this alternative would provide habitat protection for riparian associated wildlife that is more than no action and alternative B, similar to the proposed action, and much less than the R and P alternatives. This alternative would result in modest improvement to the viability outcomes for riparian-dependent surrogate species.

### **Climate Change**

Some of the riparian-associated surrogate species are rated as high sensitivity to climate change (CCSD 2013) and riparian habitats are considered vulnerable to the anticipated effects of climate change (Lawler et al. 2014). The primary effect that is anticipated from climate change is the loss of habitat and reduced connectivity of riparian habitats due to altered hydrologic and disturbance (fire) regimes (Lawler et al. 2014).

The emphasis of this alternative is on relatively intensive timber management. Because this alternative does not focus on landscape-scale restoration, the restoration of disturbances regimes would not be emphasized. Thus, habitat for riparian-dependent surrogate wildlife is likely to be lost at an accelerated rate due to increased disturbances associated with climate change and some loss of riparian habitat from relatively intense timber harvest. In addition, a climate change adaptation for riparian habitats is to restore their resiliency by reducing the negative effects of roads (Lawler et al. 2013). However, this alternative has limited opportunity for managers to reduce road effects on riparian habitats.

### **Cumulative Effects**

The adjacent Federal land managers include the Okanogan-Wenatchee National Forest to the west, the Idaho Panhandle National Forest to the east, and the Pend Oreille National Wildlife Refuge to the southeast. The Idaho Panhandle National Forest and the Pend Oreille National Wildlife Refuge have management plans that reduce the negative effects of roads on wildlife habitats and to protect and restore riparian habitats (USFWS 2000, USFS 2015). The Okanogan-Wenatchee National Forest is in the process of revising their Forest Plan and current plan provides limited management direction to reduce the effects of roads on wildlife habitat, and riparian habitat protections in the original Forest Plan were found to be inadequate and were amended (INFISH, PACFISH-USFS 1995; ACS-USFS 1994).

On private lands, Washington State Forestry Practices Act provides some limited protections for riparian habitats. Management of priority watersheds emphasizes using an “all lands” approach to enhance coordination across landowners and may enhance conditions for riparian associated wildlife species. However, habitat protections for riparian habitats on Federal lands would help to mitigate for the limited protections that occur on private lands.

### **Summary**

Implementation of this alternative would make a relatively low contribution to the viability of riparian-dependent surrogate wildlife species. This determination is based on the following:



- 1) This alternative would not address the negative effects that roads have on riparian habitats.
- 2) This alternative would not consolidate and make more consistent management direction for riparian habitats using standards (as in alternatives R and P) and would have smaller riparian management areas.
- 3) This alternative would not emphasize landscape restoration that would reduce the potential effects of uncharacteristically severe fires on riparian habitats.

## Species of Management Interest

### *Deer and Elk*

#### **Direct and Indirect Effects**

Forest management activities can influence deer and elk populations and habitat use. Vegetation management activities may affect the distribution and abundance of cover and forage. Adequate forage is particularly important during the summer and fall before the following birthing season when this can have a positive effect on the condition pregnant females (Lenz 1997, Cook 1998, Cook 2002, Cook et al. 2004, Cook et al. 2005). The management of forest roads and trails can influence how deer and elk use habitats, and influence the interactions between deer and elk (Rowland et al. 2005, Wisdom et al. 2005a, and b). Additionally, deer and elk can compete with domestic livestock for both food resources (Findholt et al. 2005) and space (Coe et al. 2001, Coe et al. 2005). Thus, the potential effects that vegetation management, road and trail management, and grazing management can have on deer and elk habitats and population are evaluated for each of the alternatives.

Under this alternative, cover and forage for deer and elk on winter ranges emphasizes the retention of winter thermal cover. Considerable research has shown that the management of deer and elk winter habitat should be less focused on the retention of thermal cover, and more focused on the availability of forage on summer and fall habitats (see Cook et al. 2005 for a review). This alternative would not incorporate the current science about the role of winter thermal cover in providing for deer and elk populations.

This alternative would not alter the current habitat effectiveness for deer and elk on summer and winter ranges through road management. The Selkirk Elk Herd has a moderate level of habitat effectiveness (moderate level of human influence) on their winter ranges. Currently, in 38 percent of the watersheds, winter habitat for deer has a high habitat effectiveness index (low level of human influence), 38 percent habitat a moderate level of habitat effectiveness (moderate level of human influence), and 24 percent habitat a low level of habitat effectiveness (high level of human influence). Current management direct for winter ranges is based on road density standards. Rowland et al. (2005) found road density to be a poor indicator of habitat use by deer and elk and recommended the use of the zone of influence instead. This is incorporated into the proposed action, R and P alternatives but not alternative O.

Under this alternative, there would be not changes to current grazing practices that occur on national forest allotments. Degraded range conditions would be maintained or slowly be improved, likely having effects on deer and elk habitat use and populations (Coe et al. 2001, 2005; Findholt et al. 2005). Somewhat more robust range management direction would be adopted.

#### **Climate Change**

Deer and elk have a low level of sensitivity to the effects of climate change due to their ability to tolerate a relatively wide range of climatic conditions, their high mobility, and as habitat generalists (CCSD 2013). However, alternatives that restore landscape pattern and functions while reducing the

16979 effects of roads on deer and elk summer and winter habitats would provide more resilient deer and  
16980 elk populations. This alternative does not emphasize landscape-scale restoration and nor does it  
16981 provide consistent and effective management direction for roads that would restore habitat  
16982 effectiveness for deer and elk.

### 16983 **Cumulative Effects**

16984 The historical cattle and sheep grazing that occurred on portions of the Forest degraded range  
16985 conditions (Wissmar et al. 1994, Bunting et al. 2002). These conditions, combined with current  
16986 domestic (cattle) and wild ungulate grazing (primarily elk and deer), have resulted maintenance or  
16987 slow recovery of poor range conditions in some areas (Wissmar et al. 1994, Bunting et al. 2002).  
16988 These poor range conditions can have had negative effects on some important unique habitats such  
16989 as riparian areas and meadows. This alternative would result in more rigorous grazing management  
16990 direction that would help to address this situation.

16991 Winter ranges for the deer and elk occur on Federal lands, adjacent Wildlife Management Areas  
16992 managed by the State, and private lands. Elk herd management plans (WDFW 2001) provide  
16993 guidance for elk management on state lands and make recommendations for elk management on  
16994 Forestlands. Management plans for deer include the White-tailed Deer Management Plan that  
16995 provides direction to manage hunting to either maintain deer populations (WDFW 2010) and a  
16996 general plan for mule deer (WDFW 2008), which are widely distributed across the Forest. A  
16997 considerable amount of historical winter range for deer and elk is now in private land ownership or  
16998 under the waters of Lake Roosevelt (created by the Grand Coulee dam). The cumulative effects of  
16999 the existing management plans (state and Federal lands) would provide for the conditions that  
17000 contribute to sustainable populations of deer and elk, while considering the effects of private land  
17001 development.

### 17002 **Summary**

17003 Implementation of alternative O would make a relatively low contribution to the conditions that  
17004 support sustainable populations of deer and elk. This is based on the following:

- 17005 1) This alternative would not address new science that recommends de-emphasizing the  
17006 importance of winter thermal cover and increasing the emphasis on summer and fall forage  
17007 quality and quantity.
- 17008 2) This alternative does not provide consistent and effective direction on the management of  
17009 roads and trails to restore habitat effectiveness on deer and elk summer and winter ranges.
- 17010 3) This alternative would include somewhat more rigorous management direction to improve  
17011 the conditions of key habitats, such as riparian areas and meadows that are in poor condition  
17012 due to the cumulative effects of past grazing practices, and current domestic and wild  
17013 ungulate grazing.

17014

## **Social and Economic Conditions**

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### **Economic Resources**

The Colville National Forest contributes to the local economy through the supply of products, services and uses, as well as directly hiring employees and spending budgetary dollars. These activities support direct, indirect, and induced jobs. Industry level employment and income data are derived using IMPLAN 2010 model software and data at the county scale (MIG 2012). For this analysis, impacts are limited to the three-county socio-economic impact zone comprising Ferry County, Pend Oreille County, and Stevens County.

The following sections summarize the economic impacts related to recreation, range and timber uses, Forest Service expenditures, and revenue sharing and payments to counties from the specialist report (Philips and Jaworski 2015). Not covered are minerals and non-timber forest products uses. National forest plan revision decisions minimally affect mineral production. Non-timber forest products use and production data are limited and are not in a format useful for economic impact analysis in forest planning.

### **Affected Environment**

National forest management affects traditions, lifestyles, and the economic livelihood of residents and communities. Those who depend on the national forests for their livelihoods and recreational pursuits are concerned that their relationship with the national forests may be compromised by other uses and restrictions. Forest Service managers depend on their relationships with local communities, people, and their institutions to help manage the national forests. Communities provide a skilled workforce, labor, manufacturing infrastructure, business support, and other services. All of these relationships are important to sustaining and restoring the ecological integrity of the national forests as well as the social and economic wellbeing of the communities.

### **Current Conditions**

The Colville National Forest contributes to the local economy and social conditions in a variety of ways. These contributions include the supply of products, services and uses, as well as directly hiring employees and spending budgetary dollars. These activities support jobs and income in each of the Forest's socio-economic impact zones. Not all resource outputs and purchases result in local economic activity. For example, logs harvested from one national forest may be sent to processing mills outside of its socio-economic impact zone. Similarly, a national forest may purchase goods and services from businesses located outside its socio-economic impact zone. For example, we do not include restoration work contracted with non-local businesses or helicopter logging services by non-local firms as direct jobs in the local economy.

The following sections discuss the economic impacts related to recreation, range, and timber uses; Forest Service expenditures; and revenue sharing and payments to counties. This analysis does not address minerals and non-timber forest products uses. The plan revision decisions are expected to minimally affect mineral production. Non-timber forest products use and production data are limited and are not in a format useful for economic impact analysis in forest planning. All dollar amounts are presented in 2012 dollars unless otherwise noted.

### **Recreation**

Visitors to national forests have the opportunity to participate in a variety of activities in developed and dispersed settings. These activities include hiking, camping, and driving for pleasure as well as

wildlife and fish use, such as hunting, fishing, and wildlife viewing. In addition to economic benefits, recreation activities contribute to social and economic well-being in the socio-economic impact zones since recreation opportunities within the national forests enhance the quality of life for nearby residents.

National Visitor Use Monitoring (NVUM) system collects and analyzes data about Forest Service recreation use. The first survey collected data between 2000 and 2003. The second round of NVUM collected data for the Colville in 2009 (USDA FS 2010). The scientists managing the NVUM survey state that comparisons of the first and second round results are not appropriate due to changes in the study protocols. Round 2 results estimated a total of 335,706 visits annually.

Recreation economic effects are based on expenditures for goods and services including shopping at convenience stores or purchasing gasoline, food, lodging, outfitter guides, and sporting goods within 50 miles of the national forest. Expenditures are based on the procedures identified in “Estimation of national forest visitor spending averages from national visitor use monitoring: round 2” (White et al. 2012). Six primary market segments and two segments for downhill skiing are used to identify key differences in spending patterns of visitors (table 158). There are two key differences in the market segments. The first identifies local and non-local visitors to identify dollars (new money) brought into the socio-economic impact zones. The second difference identifies overnight stays either within the national forest or overnight stays outside the national forest. The classifications are important because recreation expenditures and their effects on local economies are different. Trip expenditures by local day visitors are much less than expenditures by non-local visitors staying overnight. Day use visitors do not require lodging and typically spend less on other goods and services.

**Table 158. Market segments of national forest visitors (2009)**

Market Segment	Annual Visits
Non-local day	48,949
Non-local overnight within the national forest	18,034
Non-local overnight outside of the national forest	12,881
Local day	152,000
Local overnight within the national forest	20,610
Local overnight outside of the national forest	5,153
Downhill skiing day	71,052
Downhill skiing overnight	7,027
Total	335,706

The Forest Service crosswalked the recreational expenditures to IMPLAN model sectors to estimate the economic effects of recreational uses. Each of the six market segments has a unique expenditure profile. The expenditure profile is combined with the amount of recreation use for each market segment to estimate the direct, indirect and induced employment and income effects (table 159).

17084 **Table 159. Recreation, wildlife, and fish economic impacts**

Use/Impact	Average Annual Amount
<b>Non-local recreation use</b>	
Jobs	115
Income	\$1,986,000
<b>Non-local wildlife recreation use</b>	
Jobs	5
Income	\$112,000
<b>Local recreation use</b>	
Jobs	71
Income	\$1,368,000
<b>Local wildlife recreation use</b>	
Jobs	4
Income	\$90,000

17085 **Rangeland and Grazing**

17086 Livestock grazing on the Colville National Forest is an important use to the local ranching industry.  
17087 Grazing on public lands contributes directly to livestock forage needs, but the total contribution is  
17088 greater because it affords ranchers the opportunity to grow forage on other ranch lands for feeding  
17089 livestock during winter months.

17090 The economic analysis of grazing uses data on animal unit months (AUMs). One AUM is the  
17091 amount of forage a 1,000 pound mature cow and a calf consume in a 30-day period, which is about  
17092 780 pounds of dry weight. Permitted AUMs are measures of planned capacity and are the number of  
17093 AUMs specified by the grazing permit for the duration of the permit (USDA FS, n.d., section  
17094 2230.5). The permit is usually valid for 10 years (USDA FS, n.d., section 2231.03). Authorized  
17095 AUMs is the amount of forage permittees pay for to use in a given year. Authorized AUMs indicate  
17096 how much of the planned capacity is used. It is the authorized use amount which contributes to jobs  
17097 and income.

17098 The amount of livestock forage consumed by animals authorized to graze on Forest Service  
17099 allotments is the basis of the economic activity associated with Forest Service livestock grazing.  
17100 Table 160 shows the average grazing data for 2012 through 2014 for the Colville National Forest.  
17101 We use this data with the direct effects of 1,000 AUMs based on the revised BLM grazing impacts  
17102 methodology (USDI 2012, page 201). We then combine these data with IMPLAN model multipliers  
17103 to identify the indirect and induced effects for employment and income contributed by the Colville  
17104 National Forest. We use the BLM methodology because it is based on the type livestock typically  
17105 grazed on public lands and includes unpaid and family labor.

17106 **Table 160. Average authorized livestock grazing data for 2012 through 2014**

Livestock	Animal unit months
Cattle	27,428
Sheep and Goats	0

17107 Table 161 displays the average annual jobs and income associated with current national forest  
17108 livestock grazing. We estimated the effects based on the average authorized grazing as displayed in

17109 Table 160 and the IMPLAN 2012 model data year. The data are totals for direct, indirect, and  
17110 induced effects.

17111 **Table 161. Livestock grazing economic impacts and their socio-economic impact zones**

Impact	Amount
Jobs	98
Income	\$1,515,000

## 17112 Forest Products

17113 The Colville National Forest has a long history of providing timber and other forest products in  
17114 support of local community and national needs. Communities throughout the socio-economic impact  
17115 zones had strong economic components related to the wood products industry. However, increased  
17116 environmental protection, a focus on sustaining and restoring a broader range of resources, and  
17117 changing mill technology have resulted in significant declines in the timber industry and in the  
17118 businesses that support the timber industry.

17119 Annual timber volume harvested from the Colville, excluding fuelwood, has declined dramatically,  
17120 from a high of almost 135 million board feet per year during the late 1980s to about 44 million board  
17121 feet. Harvest on all other ownerships has also declined during the same period. Table 162 displays  
17122 the 2012 through 2014 average timber harvest by product type. Non-sawtimber includes pulpwood  
17123 and green biomass, such as clean chips. Fuelwood includes both personal and commercial use.

17124 **Table 162. Timber harvest volume three-year average**

Timber Product	Colville (Average 2012-14), CCF
Sawtimber	47,237
Non-sawtimber	13,577
Poles	17
Fuelwood	7,325
Totals	<b>68,157</b>

17125 CCF = hundred cubic feet

17126 Source: USDA FS 2014a

17127 From the late 1990s through 2007, sawmill and plywood-veneer processing capacity in eastern  
17128 Washington decreased by about 50 percent (Ehinger 2008). A recent inventory of wood products  
17129 mills in the area shows little change (Loewen 2014). Processing capacity is important for several  
17130 reasons. It generates value added jobs and income in addition to those jobs associated with logging.  
17131 Local processing capacity increases the net value of stumpage since it costs more to ship logs to  
17132 distant mills. A higher stumpage value means timber harvest projects are more likely to be  
17133 economically viable.

17134 The economic activity associated with timber harvest is based on the flows of logs through logging  
17135 companies including transportation; primary processors, such as sawmills, veneer and plywood  
17136 mills; and pulp and paper manufactures. The direct economic effect of the timber program is derived  
17137 using mill survey data (Alward et al. 2010). The direct job effect of timber harvest was determined  
17138 by dividing the total employment in an industry, such as sawmills, by the timber volume processed

or handled by that industry. The calculation provides a direct response coefficient for jobs per unit of wood volume. We then integrated the response coefficient with the IMPLAN models for each socio-economic impact zone to calculate the indirect and induced employment and income effects for the timber industries and supporting businesses that exist in the socio-economic impact zone.

Table 163 shows the amount of timber harvest from the Colville processed locally. Most of the sawtimber and all of the nonsawtimber from the Colville is currently processed within the Colville socio-economic impact zones analyzed. It is noteworthy that 20 percent of the volume harvested from the Okanogan-Wenatchee National Forest is also processed within the Colville socio-economic impact zone.

**Table 163. Area where timber harvest is processed**

Colville	Sawtimber	Nonsawtimber	Posts, Poles, Fuelwood
Process area: Colville	96%	100%	100%
Not processed locally	4%	0%	0%

Source: Rinke 2012

Table 164 shows the economic contributions associated with the timber harvested from the Colville in its socio-economic impact zone.

**Table 164. Colville National Forest timber harvest economic impacts**

Impact	Amount
Jobs	273
Income	\$15,969,000

The sawtimber and nonsawtimber volume from the Okanogan-Wenatchee processed in the Colville socio-economic zone generates an additional 62 jobs and \$3,099,000 income.

## National Forest Expenditures

Forest Service employees, budgets, buildings, and other infrastructure contribute to social and economic well-being in the communities making up the Colville National Forest socio-economic impact zone. Forest management requires a budget that is spent on employees, contractors, goods and services, and the construction and maintenance of infrastructure. In addition to the day-to-day scheduled management activities, the Forest Service sometimes spends money for unplanned activities, such as wildfire suppression. Table 165 shows the expenditures divided into salary and non-salary components and including and excluding wildfire suppression costs. The data are presented as the 2009 to 2011 average, the latest years for which the data are formatted for use with IMPLAN.

**Table 165. Average annual national forest expenditures for 2009 through 2011**

Expenditure	Amount
Salary excluding fire suppression	\$11,325,410
Non-salary excluding fire suppression	\$6,937,960
Salary including fire suppression	\$12,175,070
Non-salary including fire suppression	\$7,744,050

Table 166 shows the economic effects of salary and non-salary expenditures. Forest Service employees account for 225 or about 80 percent of all jobs. Non-salary expenditures and indirect and induced effects of Forest Service salary and non-salary expenditures generate the other 53 jobs. The economic impacts are estimated using the disposable income spent by Forest Service employees and the agency's expenditures spent on materials, contracts, and services. The economic impacts are calculated using budgets excluding fire suppression costs. The reason for not identifying the economic effects associated with fire suppression expenditures is because suppression activities are not predictable, and most of the fire suppression dollars are spent on resources from outside of the national forest's socio-economic impact zone. The portion spent locally is unknown.

**Table 166. The economic impacts of national forest budgets**

Impact	Amount
Jobs	278
Income	\$13,314,000

Excludes fire suppression activities

## Revenue Sharing and Payments to Counties

Counties receive Federal payments based on revenue sharing under the Payments to States Act, also known as 25-percent receipts. They also receive money under the Payments in Lieu of Taxes (PILT) program based on the percentage of federally administered land. Due to declining revenues from timber receipts, the Secure Rural Schools and Communities Self-Determination Act (SRS) was enacted to supplement the Payments to States Act. SRS money is divided into three separate parts identified as Title 1, Title 2 and Title 3. Title 1 money, about 80 percent of the total, is spent on local roads and schools based on a 50-50 split. The remaining money is spent on ecosystem management projects on NFS lands and local government projects enhancing environmental education, public safety, and other projects. PILT money can be spent on any local government purpose.

The last payment under the original SRS was planned for 2006. An extension of the SRS payments was signed into law in 2007, and the next year, the Emergency Stabilization Act of 2008 was signed into law authorizing the SRS payments through 2011. The SRS payment was extended again for 2012 and again for 2013. Congress has reauthorized SRS payments through 2016. Because SRS payments subject to congressional approval, we provide an analysis of potential revenue sharing without the SRS adjustment.

Table 167 displays the average amounts of SRS and PILT money paid from 2012 to 2014 to the counties in the socio-economic impact zone. The PILT payment amount is based on the total Forest Service acres in each county identified in the PILT data base. The SRS payment is the total payment to each county in the socio-economic impact zone. SRS payments are calculated on proclaimed national forest acres rather than acres administered by a national forest. For example, the Colville administers portions of the Kaniksu National Forest in Pend Oreille and Stevens counties.



**Table 167. Total Forest Service SRS and PILT payments to socio-economic impact zone**

Payment Type	Average Payment, 2012-2014
SRS	\$1,719,580
PILT	\$1,313,300
Totals	\$3,032,880

Source: USDA FS 2014c and USDI 2014

Since it is unknown whether the SRS payments would continue into the future, we provide an estimate of payments to states based on the pre-SRS mechanism of 25-percent of the average timber receipts. The estimated payment shows a drop of about 80 percent from the Colville SRS payment.

**Table 168. Reconstructed Forest Service 25-percent payments to counties**

Payment Type	Amount
25-percent (reconstructed)	\$352,230

Based on 2007–2013 average data

Source: USDA FS 2014c

SRS and PILT payments to counties are a component of local government expenditures. In order to calculate the economic contribution of the payments, the money is applied to several economic sectors using the IMPLAN model. All of the PILT payment is applied to the non-schools local government sector. We split the SRS payment four ways applying about 40 percent to highway construction and maintenance to capture the county roads portion, and 40 percent is applied to the schools sector of local government for Title 1; 10 percent is applied to ecosystem management projects on NFS lands for Title 2; and 10 percent is applied to the local government sector for Title 3.

The following table identifies the jobs and income impacts.

**Table 169. Economic impacts of Forest Service payments to counties**

Impact	Amount
Jobs	36
Income	\$1,368,000

For year 2011

If the SRS payments are not extended and payments are instead based on 25-percent revenue sharing, the jobs and income contributions would be reduced. PILT and 25-percent payments would support approximately 20 jobs and \$751,000 in labor income annually.

### Economic Contributions Summary

Table 170 shows the economic effects of recreation, range, timber, agency expenditures, and payments to counties combined for Colville National Forest and its socio-economic impact zone. The data for jobs and income contributed by the Forest Service are compared to the total jobs and income by industry sector in the zone to identify the relative importance of the national forest to that sector and to the socio-economic impact zone overall.

The economic relationship of the Colville National Forest to its socio-economic impact zone shows moderate economic ties. The Colville shows about a 5 percent overall contribution to total

17229 employment and about a 6 percent contribution to labor income. Seven industrial sectors show  
 17230 5 percent or more Colville National Forest-related job contributions. Highest of these is agriculture,  
 17231 which includes logging and grazing-related employment. Other important sectors are manufacturing  
 17232 including wood processing employment and recreation-related sectors. The jobs and income  
 17233 supported through Forest Service management activities are important components of the socio-  
 17234 economic impact zone's well-being.

17235 **Table 170. Current contribution of the Colville National Forest to its socio-economic impact zone**

Industry	Employment (jobs)			Labor Income (\$1000s)		
	Impact Area Totals	National Forest Related	National Forest Percent of Total	Impact Area Totals	National Forest Related	National Forest Percent of Total
Agriculture	2,108	191	9.06%	\$44,391	\$6,346	14.30%
Mining	195	3	1.71%	\$17,089	\$60	0.35%
Utilities	92	1	1.61%	\$12,022	\$187	1.56%
Construction	1,572	11	0.69%	\$38,806	\$261	0.67%
Manufacturing	1,472	107	7.26%	\$92,582	\$7,767	8.39%
Wholesale trade	293	13	4.45%	\$14,515	\$713	4.91%
Transportation and warehousing	583	14	2.34%	\$16,675	\$487	2.92%
Retail trade	2,079	46	2.20%	\$57,689	\$1,382	2.39%
Information	198	4	2.07%	\$6,295	\$144	2.29%
Finance and insurance	515	7	1.42%	\$14,930	\$327	2.19%
Real estate and rental and leasing	314	8	2.55%	\$4,244	\$173	4.08%
Professional, scientific, and technical services	641	11	1.75%	\$23,445	\$455	1.94%
Management of companies	13	1	5.53%	\$829	\$55	6.61%
Administrative, waste management, and removal services	393	10	2.60%	\$10,411	\$215	2.06%
Educational services	223	2	0.99%	\$1,990	\$29	1.48%
Health care and social assistance	1,975	24	1.23%	\$88,788	\$1,168	1.31%
Arts, entertainment, and recreation	755	58	7.75%	\$3,480	\$264	7.58%
Accommodation and food services	1,182	90	7.60%	\$17,427	\$1,273	7.30%
Other services	1,334	21	1.61%	\$35,312	\$726	2.05%
Government	5,098	259	5.08%	\$302,024	\$13,801	4.57%
Totals	21,035	883	4.20%	\$802,942	\$35,833	4.46%

17236 Excludes fire suppression dollars

## Methods

### Socio-economic Impact Zones

We defined three county-level socio-economic impact zones to characterize the economic conditions and impacts of national forest management: Ferry County, Pend Oreille County, and Stevens County. We primarily considered three criteria to develop the impact zones: (1) the number of Forest Service-administered acres in each county, which relates to county payments; (2) trade flows of national forest products and by-products moving to and between local processing facilities; and (3) interconnected county economies. More information about the county selection process is available from the project record (Phillips 2010).

### Data Sources and Methods

Management approaches to addressing the significant issues have socio-economic consequences. Public comment identified concerns about the potential effects including those on local economies and social conditions. Economic impacts were the result of potential changes in vegetative outputs (such as firewood and commercial timber), recreation use, and grazing. These concerns, along with differences in recreation access, species viability, risk of wildfire, and climate change also result in social impacts.

This section describes the potential direct, indirect, and cumulative effects of management of the Colville National Forest on economic well-being. The analysis focuses on how changes in management activities by alternative affect goods and services, and how those changes affect the economic contribution of the Forest on the local economies in its socio-economic impact zone. The outputs used for this analysis include estimated timber harvest volume, grazing use, and recreation use. Based on these outputs, we assess the resulting employment and income contributions. We also measure employment and income contributions from Forest Service budgets, and revenue sharing and payments to counties to provide a broader picture of the economic relationship of the Forest to its surrounding communities.

Industry-level employment and income data are derived using IMPLAN 2012 model software and data at the county scale (MIG 2012). The IMPLAN data and analysis system provides a level of specificity for employment and income at a finer industry scale than data reported by the Bureau of Economic Analysis. The IMPLAN data and analysis system is also a useful tool to estimate the impacts of alternative management strategies on local economies. We provide additional information about data sources and methods as we discuss them in the following sections.

Counties are large, and using data at this level often masks social and economic conditions and trends occurring at the sub-county or individual community level. We do not address these potential sub-county changes because they are generally not quantifiable given the broad scale of forest plan decisions. We address the social and economic effects related to a national forest's management activities within its socio-economic zone and normally do not address the potential economic relationships that exist in other areas. However, since large portions of the sawlog timber harvested on the Okanogan-Wenatchee National Forest are processed within the Colville National Forest socio-economic impact zone, we identify these effects.

### Assumptions

- The Forest's budget continues at current levels for all alternatives.
- Recreation uses displaced in one part of the national forest are accommodated elsewhere on the forest.

## **Incomplete and Unavailable Information**

The levels of supply and demand for national forest goods, services and uses are difficult to predict and they vary over time. Future market conditions are also uncertain. In order to address estimation error and variability, we include the job and income impacts associated with a small increment of a good, service or use in the discussion of alternative effects. This information provides the reader an indication of how sensitive the economic impacts are to predictions of goods, services and uses, and to address potential “what if” scenarios. We also discussed additional cautions about information completeness and availability in the affected environment section.

## **Spatial and Temporal Context for Effects Analysis**

The spatial context for the economic impacts analysis includes Ferry, Pend Oreille, and Stevens counties. Due to the programmatic nature of forest planning, we do not estimate site-specific consequences. The economic impacts are identified at the broader three-county level.

The temporal context for the economic impact analysis is the life of a forest plan, which is expected to be 15 years.

## **Past, Present, and Foreseeable Activities Relevant to Cumulative Effects Analysis**

Economic impact cumulative effects are primarily associated with the management activities of adjoining land managers and community infrastructure. The supply of goods, services, and uses similar to those supplied by the Colville are components of the overall economic picture. The major land ownerships that we consider in the cumulative effects analysis are the Okanogan-Wenatchee and Idaho Panhandle National Forests, the Spokane District of the BLM, tribal lands including the Confederated Tribes of the Colville Reservation, the Kalispel Tribe, and the Spokane Tribe of Indians, and privately held forest lands.

Community infrastructure is important to support national forest management activities and to process goods and services. Having local capacity for wood products processing increases the value of national forest wood fiber. Having knowledgeable local operators and equipment lowers the cost of ecosystem restoration activities. Changes in the local infrastructure affect the amount of job and income impacts that occur in the economic impact area.

## **Environmental Consequences**

The amount of goods, services, and uses produced under each alternative drive the level of economic impacts. However, aside from timber harvests, there is little variation in the amount of the jobs and income impacts by alternative. Even though the economic impacts for many resources do not vary by alternative, there are other qualitative and quantitative differences. We address these effects in the social and other resource sections.

We have combined the alternative impacts of separate issue categories for this economic impact analysis. For example, direction to address the recommended wilderness issue may affect levels of timber harvest. However, the primary issue category affecting timber harvest is Old Forest Management. Likewise, Livestock Grazing and Road Density affect recreation; however, Motorized Recreation is the primary issue category impacting recreational opportunities. Table 178, at the end of this section on economics, displays the economic contribution of each alternative by program area.

## Forest Products

We use the projected wood sale quantity (PWSQ) to estimate the amount of economic activity for each alternative. PWSQ includes timber harvest for any purpose from all lands in the plan area. PWSQ is based on consistency with the plan components as well as the planning unit's fiscal and organizational capacity. The key components of timber harvest includes sawtimber used primarily in sawmills and in plywood and veneer manufacturing; nonsawtimber such as pulpwood and biomass used in processing pulp and paper as well as composite board; fuelwood which includes both commercial and personal use; and small amounts of posts and poles.

**Table 171. Estimated annual timber harvest (PWSQ) by alternative and by product type in CCF**

Product Type	No Action	Proposed Action	Alt. R	Alt. P	Alt. B	Alt. O
Sawtimber	56,466	99,574	19,310	99,087	49,551	50,775
Nonsawtimber	17,365	17,365	6,308	17,365	17,365	17,365
Fuelwood	8,914	8,914	53,231	8,914	8,914	8,914
Posts and Poles	13	13	0	13	13	13
Total	82,758	125,866	28,849	125,379	75,843	77,067

CCF = hundreds of cubic feet

The harvest level by product type displayed in table 171 is one part of determining the employment and income by alternative. The other part is the proportion of the harvest processed by wood products manufacturing sectors within the socio-economic impact zone. The distribution of forest harvest is shown in table 163 in the affected environment section. Table 172 displays the estimated timber-related economic effects.

**Table 172. Estimated jobs and income supported by timber harvest**

Alternative	Timber-related Employment	Annual Timber-related Income
No action	330	\$19,335,000
Proposed action	539	\$31,224,000
R	114	\$6,692,000
P	537	\$31,089,000
B	297	\$17,428,000
O	303	\$17,765,000

The no-action, B, and O alternatives would support local employment and income in the timber sector at levels similar to current conditions. These alternatives are unlikely to affect the economic well-being of individuals employed in timber harvesting and processing firms relative to existing conditions. The proposed action and alternative P would increase timber-related employment and labor income in the local economy. These alternatives may improve the economic well-being of unemployed individuals with the skills to work in forest products sectors. The R alternative would measurably decrease annual timber harvested from the Colville National Forest. The proposed action would support nearly five times more timber-related employment and income than the R alternative. Households that rely on earnings from the timber industry may experience a shock to their economic well-being under the R alternative.

Congress determines Forest Service budgets annually. At times, there are budget increases to produce more products and services from national forests or there are reductions to produce less. To address

this variability, we provide the following data useful to analyze an incremental change. A budget amount of \$40,000 for timber harvest produces about 1,000 CCF (0.5 MMBF) of sawtimber and nonsawtimber harvest. This supports about five jobs and \$273,000 in wage income. These effects are based on the current distribution between sawtimber and nonsawtimber, and where the harvested wood is processed.

## Recreation Management

Although recreational opportunities vary by alternative, we do not expect current recreation uses totaling 335,700 visits, including wildlife-related and local visits to the Colville National Forest, to vary across alternatives. The forestwide supply of recreational opportunities would generally meet or exceed demand during the life of the forest plan. With no changes in use, there is no estimated change to the overall level of recreation-related expenditures, and no differences in the jobs and income supported by the expenditures (table 173). However, differences in economic effects at smaller spatial scales are possible.

Use patterns and access would change on the Colville by alternative. For example, reductions in mountain bike access under the B alternative may cause distributional effects and mountain bikers relocate to other areas on and off the forest. However, the total amount of recreation-related spending attributable to activities on the forest is not expected to change. This forestwide economic evaluation only addresses total effects across the entire socio-economic impact area. Additional recreation related impacts are addressed in the recreation and social specialist reports.

**Table 173. Estimated jobs and income supported by recreation expenditures**

Alternative	Employment	Annual Wage Income
All alternatives	195	\$3,556,000

Projections of recreational supply and demand are not precise. We, therefore, provide an estimate of the economic impacts associated with an increment of 10,000 visits, about 3 percent of current use. This number of visits supports about 5 jobs and \$100,000 in labor income. For this assessment, we used the current proportions of local, non-local, recreation, and fish and wildlife-related recreation uses to distribute the 10,000 visit change.

## Livestock Grazing and Rangeland Vegetation Management

Projections of cattle grazing are the same across all alternatives. However, the management of potential impacts of livestock grazing on riparian-based recreation settings and nationally designated trail systems may increase costs to grazing permittees. Likewise recommended wilderness, non-motorized recreation, and reduce road density management may also increase the cost of range management. Forage potentially available for domestic sheep could vary especially under the B and O alternatives. These alternatives use no risk protection measures for bighorn sheep, which may modify or eliminate domestic sheep grazing. However, modification of sheep grazing numbers is made at the project planning scale rather than at the forest plan scale. In addition, the Colville currently has no active sheep grazing so changes in domestic sheep grazing are not projected. The following table displays the projected amounts of authorized cattle and sheep grazing.

**Table 174. Estimated cattle and sheep permitted animal unit months (AUM) by alternative**

Alternative	Estimated Cattle authorized AUMs	Estimated Sheep authorized AUMs	Total
All alternatives	27,580	0	27,580

We estimate the economic effects of the alternatives based on authorized cattle and sheep grazing use. Table 175 displays the total jobs and wage income supported by cattle and sheep grazing for the alternatives. These totals are the direct, indirect, and induced economic impacts including estimates for unpaid or family labor contributions. Since there is no variation in AUMs by alternative, the job and income economic impacts are also the same across the alternatives.

**Table 175. Estimated jobs and income supported by grazing**

Alternative	Grazing Related Employment	Grazing Related Wage Income
All alternatives	98	\$1,524,000

Environmental conditions and management needs may affect grazing use. Actual use numbers may be more or less than the projected use in any year. We, therefore, provide data to estimate the impacts of a 1,000 AUM change in cattle use, which is about 3 percent of current use. The amount supports about 4 full and part-time jobs and \$53,000 in wage-related income.

### National Forest Expenditures

Salary and non-salary expenditures comprise national forest budgets. Non-salary expenditures are the purchases of goods and services, including contracting for restoration activities, and they are for acquiring and maintaining facilities and other infrastructure. We do not project salary and non-salary expenditures to vary by alternative. The current annual budget level of \$18.3 million would continue during the plan period. This budget amount does not include expenditures for fire suppression which averaged about \$1.7 million during the years 2009 through 2011. These dollars are not included because they are not predictable, and often spent on resources from outside of the Colville National Forest socio-economic area. Table 176 displays the job and income effects of the total budget without fire suppression.

**Table 176. Estimated jobs and income supported by budget expenditures**

Economic Impact	All Alternatives
Employment (full and part time jobs)	278
Wage Income	\$13,314,000

Forest Service employees account for 225 or about 80 percent of all jobs. Non-salary expenditures and indirect and induced effects of Forest Service salary and non-salary expenditures generate the other 53 jobs.

### Revenue Sharing and Payments to Counties

Even though there may be future variations in payments based on PILT and SRS formula requirements, these are not linked to the forest plan. We therefore do not project differences in the SRS and PILT payments.

It is unknown whether the SRS payment would continue into the future. To address this issue, we provide an estimate of the revenue sharing amount under the Payments to States Act (25-percent receipts). The reconstructed 25-percent receipts payment is \$352,228 estimated from average receipts for fiscal years 2007 through 2013. This payment would be approximately 80 percent lower than recent SRS payments.

**Table 177. Estimated 25-percent payments**

County	Average Receipts, 2007–2013	Estimated County Share of 25-percent Payments
Ferry County	\$446,331	\$111,583
Pend Oreille County	\$744,877	\$186,219
Stevens County	\$217,705	\$54,426
Three-County Total	\$1,408,913	\$352,228

Source: USDA FS (2014c)

The 25-percent receipts based payments could vary by alternative and support different levels of jobs and income. Alternatives producing more revenue generating outputs and uses would in turn provide larger payments to counties. The commercial wood products are the largest generator of receipts and are greatest cause of differences in payments. Therefore, the R alternative, which would support the lowest levels of commercial timber harvest, could decrease Forest Service payments to counties. Since a reversion to 25-percent payments is unforeseeable, this analysis does not estimate employment and income variation between alternatives associated with payments to states and counties.

## Cumulative Economic Effects

The jobs and income supported through national forest management activities are important components of the Colville area socio-economic well-being. The Forest Service currently contributes about 5 percent of employment and 6 percent of labor income in the impact zone. National forest timber harvest, expenditures, and recreation uses make up the majority of these jobs and the associated income (table 178).

Current trends in timber harvests from non-Forest Service ownerships do not indicate a reversal from the significant decline between 2002 and 2003 and the additional declines since the recession of 2007. Recent revisions of the Idaho Panhandle National Forest plan and the potential revision to the Okanogan-Wenatchee Forest Plan are not expected to change local timber supplies either. Eastern Washington timber supply would remain near current levels.

The Colville National Forest budget would also remain at current levels, and recreation use and related expenditure would not differ. The Colville's current economic role would be the same in importance across all of the alternatives during the life of the forest plan.



**Table 178. Total jobs and income supported by Colville National Forest activities and programs by alternative for the Colville socio-economic impact zone**

Activity	No Action	Proposed Action	Alt. R	Alt. P	Alt. B	Alt. O
<b>Estimated Employment Contribution (direct, indirect, and induced)</b>						
Recreation	195	195	195	195	195	195
Range	98	98	98	98	98	98
Timber	330	539	114	537	297	303
Expenditures	278	278	278	278	278	278
County payments	36	36	36	36	36	36
<b>Totals</b>	<b>937</b>	<b>1,146</b>	<b>721</b>	<b>1,144</b>	<b>904</b>	<b>910</b>
<b>Estimated Wage Income Contribution (\$1,000s) (direct, indirect, and induced)</b>						
Recreation	\$3,556	\$3,556	\$3,556	\$3,556	\$3,556	\$3,556
Range	\$1,524	\$1,524	\$1,524	\$1,524	\$1,524	\$1,524
Timber	\$19,335	\$31,224	\$6,692	\$31,089	\$17,428	\$17,765
Expenditures	\$13,383	\$13,383	\$13,383	\$13,383	\$13,383	\$13,383
County payments	\$1,368	\$1,368	\$1,368	\$1,368	\$1,368	\$1,368
<b>Totals</b>	<b>\$39,166</b>	<b>\$51,055</b>	<b>\$26,523</b>	<b>\$50,920</b>	<b>\$37,259</b>	<b>\$37,596</b>

## Heritage Resources

Cultural resources represent the tangible and intangible evidence of human behavior and past human occupation. Cultural resources may consist of archaeological sites, historic-age buildings and structures, and traditional use areas and cultural places that are important to a group's traditional beliefs, religion or cultural practices. These types of resources are finite and nonrenewable with few exceptions.

Cultural resources may be affected by the issues addressed in the revision topics: Old Forest Management, Motorized Recreation Trails, Road Access, Recommended Wilderness, Livestock Grazing, Wildlife Concerns, and Riparian and Aquatic Resources. The National Historic Preservation Act (NHPA) requires that Federal agencies consider the effects of their actions on cultural resources. The 1982 planning rule states that the "examination shall consider impacts of the management of cultural resources on other uses and activities and impacts of other uses and activities on cultural resource management."

## Affected Environment

The lands of the Colville National Forest contain a long and diverse cultural record that began approximately 6,000 years ago. Remnants of past and current human activities and events that reflect continuous use by native peoples and the exploration, settlement, and management by Euro-American cultures can be found throughout the Forest. Based on current inventory surveys, it is estimated that over 2,500 cultural resource sites are located on the forest. At present, over 1,500 archaeological sites are recorded (Colville National Forest inventory and site files). Many of these sites have not been determined eligible for listing on the National Register of Historic Places. The Heritage Program of the Colville National Forest is responsible for the management of cultural resources for the benefit of the public through preservation, public use, and research.

## 17469 Cultural Setting

### 17470 Prehistoric

17471 Archaeological research has uncovered evidence for human activity in the region dating to the  
17472 middle-Archaic period. The evidence for this activity is found predominantly in the form of lithic  
17473 artifacts. Archaeological excavations have recovered artifacts, but subsequent research and analysis  
17474 have not produced a chronology or a generalized local sequence. In general, a three-period  
17475 chronology system (Thoms 1987) is utilized; this system is an adaptation of a Northwestern Plains  
17476 sequence proposed by Mulloy (1958).

17477 The Forest is located within a culture known as the Plateau. The Plateau is set apart from its  
17478 neighboring cultural areas by topography (mountainous barriers) and aboriginal cultural adaptations.  
17479 The cultural adaptations were strongly influenced by available resources and the inland maritime  
17480 environment (Chatters and Pokotylo 1998). Most Plateau cultural adaptations have emphasized the  
17481 mass harvest and long-term storage of three resource groups: fish (salmonids), edible roots (camas),  
17482 and large ungulates. Settlements within the Plateau area were also similar and characterized by  
17483 winter settlement in the lowlands and dispersed resource procurement encampments in the summer.  
17484 Population densities were tied to resource abundance (particularly fish). The Plateau culture area is  
17485 sub-divided into the Northern (Canadian) Plateau, the Southern (Columbia) Plateau, and the Eastern  
17486 Plateau. The Forest is influenced predominately by the Northern and Eastern Plateau cultural areas;  
17487 with Pend Oreille County located entirely within the Eastern Plateau sphere of influence.

17488 The Eastern Plateau region is characterized by great physiographic diversity. This diversity has  
17489 influenced the aboriginal cultural adaptations that arose in the area. The diverse terrain presented  
17490 obstacles and opportunities for native peoples. In general, the presence or absence of fish migration  
17491 (salmon and steelhead) impacted cultural development more than any other factor (Chatters and  
17492 Pokotylo 1998).

17493 Ethnographic investigation has permitted certain generalities about the region. During the past  
17494 6,000 years, the region has been utilized by diverse groups of people for a variety of activities. The  
17495 project area lies within the traditional use area of the Colville Confederated Tribe. Ethnographic  
17496 investigation has permitted certain generalities about the region. During the past 6,000 years, the  
17497 region has been utilized by diverse groups of people for a variety of activities. The project area lies  
17498 within the traditional use area of the Colville. The Colville is a sub-group of the Salishan speaking  
17499 groups that include the following cultural traditions: Wenatchee, Columbia, Chelan, Methow,  
17500 Okanogan, Nespelem, Sanpoil, Spokane, Coeur D'Alene, Lakes, and Kalispel. Ethnographic  
17501 accounts indicate that the Colville practiced wintertime deer drives and maintained resident fisheries  
17502 along the Columbia, Kettle, and San Poil Rivers. In addition to hunting deer and fishing, the Colville  
17503 harvested camas and other root crops (*Camassia* species) (Holstine 1987).

17504 A presidential executive order established the Colville Indian Reservation in 1872 (Colville  
17505 Confederated Tribe 2004). The reservation originally extended across the entirety of Ferry County.  
17506 Much of the reservation land was distributed in 80-acre allotments to members of the tribe. In 1896,  
17507 the northern half of Colville Indian Reservation was opened for mineral entry. A few years later, in  
17508 1900, the north half was opened to Euro-American homesteaders (Walter and Fleury 1985).

17509 Since 1855, the Kalispel opposed any attempts at government removal from their traditional lands.  
17510 The governments tried to move the Kalispel to one of three reservations (Colville, Coeur D'Alene, or  
17511 Flathead); some eventually moved to the Flathead Reservation, but a small group would not leave

17512 the river valley (Lahren 1998b). On March 23, 1914, President Wilson, by executive order, formally  
17513 set aside and reserved the territory described for the use and occupancy of the Kalispel Indians.

17514 Traditionally, the Spokane occupied approximately 3 million acres in northeastern Washington. On  
17515 January 18, 1881, President Hayes, by executive order, formally set aside and reserved (154,602  
17516 acres) the territory described in the Agreement of August 1877, for the use and occupancy of the  
17517 Spokane Indians (Lahren 1998b).

## 17518 Historic

### 17519 *Fur-trading*

17520 Beginning in 1821, the Hudson Bay Trading Company had great influence in the Colville and Pend  
17521 Oreille Valley regions; this influence lasted through to the late 1800s. The Hudson Bay Trading  
17522 Company was the largest trade outpost in the region serving parts of Washington, Idaho, Montana,  
17523 and Canada. The company also maintained a cadre of trappers as well as purchasing furs from  
17524 freelance trappers. Under the auspices of the Hudson Bay Trading Company, many trails were  
17525 created to facilitate trade within the region. The presence of the Hudson Bay Trading Company  
17526 induced cultural changes in both Euro-American and First Nation Communities alike (Chance 1973).  
17527 In 1809, David Thompson of the North West Company was the first trader to make contact with the  
17528 Kalispel (Thoms and Schalk 1984). In 1809, Thompson attempted to descend the Pend Oreille River  
17529 and made it as far as the present day community of Tiger.

### 17530 *Mining*

17531 Hundreds of miners began to filter into the Pend Oreille River Valley primarily looking for gold.  
17532 Some gold was found, but it was the larger deposits of zinc and lead that continued to fuel the  
17533 mining industry. The earliest gold discovery was in 1859, on Sullivan Creek (Holstine 1987). The  
17534 earliest mining efforts were for placer deposits. In its simplest form, all that was required to placer  
17535 mine was a gold pan and running water, fueled by determination. In its most complex form, several  
17536 men would work rockers, sluice boxes, pressure hoses, and floating dredges. Most of the placer  
17537 mines played themselves out by the 1870s. Placer mining eventually gave way to hard rock mining;  
17538 requiring heavier equipment and capital investment. The most notable hardrock mine in Pend Oreille  
17539 County was the Oriole mine, which produced silver, copper, and gold ore. George H. Linton located  
17540 the Oriole mine, situated west of Metaline Falls.

### 17541 *Homesteading*

17542 While the miners had gained entry into the Pend Oreille Valley by the 1850s, the majority of the  
17543 northern part of the county remained isolated and inaccessible. Riverboat traffic stopped at Box  
17544 Canyon until 1906, when the Federal Government widened the channel. Even so, riverboat landings  
17545 were scarce and it was not until the Great Northern Railroad's transcontinental line arrived in 1892  
17546 that homesteading expansion grew in earnest (Holstine 1987). Much of the lands adjacent to the river  
17547 had been claimed, forcing new arrivals to claim parcels on higher ground. These lands were marginal  
17548 and suited to timber and grazing. Eventually, most settlers abandoned their lands or sold them to  
17549 timber companies or the Federal Government via the Resettlement Administration. Most of the  
17550 homesteads date from the 1890s through to the 1920s; homesteading left an indelible mark on the  
17551 Forest.

### 17552 *Logging*

17553 Settlers in the late 1880s introduced the timber industry into the area. With the timber industry and  
17554 the passage of the Forest Homestead Act in 1906, homesteaders moved into the area (Bamonte and

Bamonte 1996). The Forest Homestead Act allowed for 160-acre homesteads on reserved forest lands. Under the Act, the land parcels were supposed to have agricultural potential, but much of the land was rocky and unsuitable for farming. Settlers in the area found that timber harvest was much more profitable than farming (Bamonte and Bamonte 1996).

The timber industry became the primary industry and contributed greatly to the settlement and economic development of Pend Oreille County (Fandrich 2002). In 1902, the Dalton and Kennedy sawmill was built in Dalkena; the mill contributed to much of the local prosperity in that section of the Pend Oreille Valley. The Panhandle Lumber Company, located in Ione, was also a major influence on the area and was considered to be one of the best equipped sawmills in northeastern Washington. By 1914, the timber industry was paying 55 percent of all wages in the State of Washington.

The mining and timber industries with the coincidental influx of settlers had a negative impact on Native American tribes living in the region. The industry and the people were at odds with the Native Americans residing in lands withdrawn from public entry in 1872. Newcomers wanted the land and resources and were willing to lobby Congress to acquire lands inhabited by tribal members and communities. The “North Half” of the Colville Reservation contained resources the mining industry desired and in 1890s, the public petitioned Congress to open the North Half to mineral entry. In 1891, the North Half was ceded to the Federal Government, in return, the tribes were to receive \$1.5 million and 80-acre tracts for those tribal members who wished to remain in the North Half (Holstine 1987, Lahren 1998a). The bill was ratified in 1892, but Congress neglected to provide the promised payment. In 1896, the North Half was open for mineral entry.

#### *“New Deal” Era*

During the Great Depression, President Franklin D. Roosevelt proposed a series of economic relief programs to the American public. These programs were designed to put the many unemployed Americans back to work and provide an income with which they could support their families. One such program was the Civilian Conservation Corps (CCC).

Northeastern Washington had fallen into economic depression well before the stock market crash of 1929. Many of the industries that supported northeastern Washington fell on hard times after World War I when farm prices dropped and mining needs diminished (Holstine 1987). The Colville National Forest and other public lands benefitted from the New Deal Era programs; arguably, the greatest contribution to the forest and the community as a whole was made by the CCC.

Approximately 11,200 men were employed by the CCC in the State of Washington at the time of its inception (Holstine 1987), with approximately 200 men located at each camp. There were 16 CCC camps located within or adjacent to what is now the Colville National Forest; eight of these camps were located in Pend Oreille County. The camp duties included but were not limited to the following: fighting local fires, building and maintaining roads and trails, improving campgrounds, and planting trees.

### **Inventory (Identification), Evaluation, and the National Register**

One of the steps to comply with Section 106 of the NHPA is identifying historic properties and evaluating the significance of those historic properties for the National Register of Historic Places (NRHP). In addition to Section 106 compliance requirements, Federal land agencies are directed to inventory cultural resources and nominate eligible properties to NRHP per E.O. 11593 *Protection and Enhancement of the Cultural Environment*, Section 110 of the NHPA, and Archeological Resource Protection Act (ARPA) Section 14. Section 110 establishes inventory, nomination,

protection and preservation responsibilities for federally owned historic properties. ARPA section 14 directs agencies to develop a schedule for inventory surveys of lands likely to contain the most scientifically valuable archaeological resources. To meet the Forest Service's responsibilities under E.O. 11593, Section 110 of the NHPA and ARPA the Heritage program conducts and/or facilitates non-project specific inventory surveys for cultural resources within the Forest and nominates federally owned properties that meet the criteria to the NRHP. Most of the inventories and evaluation of cultural resources were conducted to meet Section 106 compliance requirements.

Approximately 297 cultural resource surveys have been conducted for land management activities, primarily for timber and fuel wood sales, hazard fuels reduction projects, and several large data recovery projects for land exchanges, highways, and infrastructure and energy corridors (Colville National Forest inventory records).

Approximately 51,250 acres have been intensively surveyed for cultural resources (Colville National Forest heritage GIS data base).

### **Areas Requiring More Intensive Survey**

Most of the lands on the Forest have not been surveyed for cultural resources. Approximately 51,250 acres (current Federal lands) have been intensively surveyed for cultural resources resulting in the identification of over 1,200 sites (Colville National Forest heritage GIS data base, INFRA database).

### **National Register Status of Cultural Resources**

The NRHP is the official list of historic properties recognized by the Federal Government as especially worthy of preservation for their national, state, or local significance. At present, over 1,200 archaeological sites are recorded (Colville National Forest inventory and site files). Of those, the majority of these sites have not been evaluated for eligibility for the NRHP. According to the R6 programmatic agreement and Forest Service policy, all sites that are unevaluated are treated as eligible until they are formally determined eligible or not eligible for the NRHP.

### **Priority Heritage Assets**

Currently, there are 16 historic properties considered priority heritage assets that are eligible or potentially eligible for nomination to the NRHP. Historically, the priority heritage assets on the Colville National Forest have been subjects of several Passport in Time volunteer opportunities. The Passport in Time projects are focused preservation efforts. Each priority heritage asset has an associated management plan.

### **Traditional Cultural Properties**

Traditional cultural properties (TCPs) are defined in National Register Bulletin 38 as properties associated "with cultural practices or beliefs of a living community that (a) are rooted in that community's history, and (b) are important in maintaining the continuing cultural identity of the community." TCPs might include structures, mountains and other landforms, plant gathering locations, or other types of properties important to communities. These areas are considered properties that may be eligible to list on the NRHP. With regard to the forest, the identified TCPs on the Colville are often associated with American Indian cultures.

Fourteen American Indian tribes represented by three tribal governments are known to have ancestral ties and/or traditional use areas on the Colville National Forest based on current and past consultation: Okanagan, Methow, Chelan, Entiat, Wenatchee, Moses-Columbia, Nespelem, San Poil,

17641 Lakes, Colville, Palus, Chief Joseph Nez Perce, Spokane, and Kalispel. Forest Service consultations  
17642 with appropriate members of each tribe can identify the tribe's historic and present day uses of the  
17643 forest.

17644 The lands, resources, and archaeological sites within the forest are considered traditionally  
17645 significant to all affiliated tribes and, in some cases, certain resources or areas are considered sacred  
17646 to a specific tribe or tribes. Each group has its own history, traditions, and relationship to the land  
17647 and to the other groups. Traditional use of the forest and its resources by the tribes dates back several  
17648 generations, and for some groups many centuries.

17649 Known traditional use areas and cultural places located within the forest include but are not limited  
17650 to spruce forests, mountains, cinder cones, springs, caves, trails and shrines. TCPs and sacred sites  
17651 known to have been used and/or continue to be used for traditional cultural purposes have been  
17652 identified and locational information is not available for public disclosure. In some cases, there are  
17653 multiple areas used for collection of resources or religious ceremonies found on or within the vicinity  
17654 of a prominent topographic feature. Many other areas located on the forest are used for traditional  
17655 cultural purposes but have not been specifically identified. Additional areas may be identified  
17656 through project or permit specific tribal consultation. Therefore, the inventory of known TCPs and  
17657 areas used for traditional cultural purposes is subject to change.

## 17658 **Public Outreach, Interpretation and Education**

17659 One of the objectives of the heritage program is to promote and invest in public education and  
17660 outreach to meet the intent NHPA Section 110, E.O. 13287 Preserve America, and ARPA section  
17661 10(c). ARPA states "Each federal land manager shall establish a program to increase public  
17662 awareness of the significance of the archaeological resources located on public lands and Indian  
17663 lands and the need to protect those lands." The forest's heritage program has been active in providing  
17664 opportunities to the public to promote cultural resource stewardship and conservation through  
17665 volunteer programs, recreation opportunities, and presentations. Examples of public outreach and  
17666 education that have been conducted in the past or are available on the forest include the following:

17667 School and public presentations (e.g., K-12 class presentations, Washington archaeological month  
17668 events, Children's Forest GeoCache Activities).

17669 Numerous Passports in Time projects involved historic building restoration, surveys, site recording,  
17670 and excavations. Some of the projects include the Growden Changing House Restoration, Gypsy  
17671 Copper Powderhouse Restoration, and Lake Thomas Survey and Testing.

## 17672 **Current Condition of Archaeological Sites**

17673 Past practices, including Forest Service management activities, public resource procurement,  
17674 recreation use and natural processes have impacted cultural resources. Multiple uses and activities on  
17675 the forest that have resulted in the most impacts to cultural resources include: infrastructure,  
17676 livestock grazing, fire, timber and vegetation management, recreation activities, looting and  
17677 vandalism, and land adjustments.

### 17678 **Infrastructure**

17679 During the 20th century, a large network of roads was created to access, harvest and transport timber.  
17680 Road construction, use, and maintenance have been a major source of human impacts to sites. Roads  
17681 have partially damaged or completely destroyed site features and cultural materials by the excavation  
17682 or grading away of soils, changing the pattern of erosion causing increased flows of water across

17683 sites, compaction of soils, and rutting from vehicle use during wet conditions. While the construction  
17684 and use of roads (both official and unauthorized) in and near sites can directly impact sites, the  
17685 presence of roads in and near sites can also indirectly affect site condition as well. The most  
17686 important of these indirect impacts is intentional vandalism (see Looting and Vandalism). Many of  
17687 the facilities and infrastructure are eligible for consideration as historic properties on their own  
17688 merits.

17689 Construction and management of facilities and structures has adversely impacted cultural resources.  
17690 Facilities that had the most impact on cultural resources include power transmission and distribution  
17691 lines, fire lookout towers, communication towers, dams, wastewater treatment plants and pipelines,  
17692 and highways. The impact caused from constructing and maintaining facilities on areas with sites  
17693 usually involves the destruction of cultural material and features.

#### 17694 Livestock grazing

17695 Grazing activity has occurred on the forest since the 1880s. Ranchers built homesteads and range  
17696 improvements such as fences and water catchments. The lands selected for homesteads and  
17697 construction of water catchments were often located in the same areas utilized prehistorically. Direct  
17698 and indirect impacts from livestock have occurred to sites on the forest. Forest permits dating to the  
17699 early 1900s reveal that large numbers of sheep, cattle, and horses grazed and crossed NFS lands.  
17700 Livestock grazing can negatively impact sites directly by trampling, artifact breakage, soil  
17701 compaction, soil removal, and other types of damage to features as livestock walk through a site.  
17702 Grazing can indirectly impact sites through loss of ground cover, which in turn leads to erosion.

#### 17703 Fire

17704 Most of the lands within the forest are located in a fire-adapted ecosystem. Evidence that prehistoric  
17705 sites and TCPs have been repeatedly burned (prior to active fire suppression), is demonstrated by  
17706 fire-scarred trees and thermally (fire) altered artifacts.

17707 Generally, low intensity fires have not adversely impacted prehistoric sites that are not fire sensitive  
17708 or composed of combustible material. Conversely, most historic sites are either combustible or  
17709 include combustible cultural material. These sites are very vulnerable to adverse impacts from fire.

17710 The aggressive fire suppression management practices prior to 1970, and livestock grazing resulted  
17711 in changes to the forest structure. Over time, dead and down materials increasingly grew thicker on  
17712 forest floors and the forest became dense with stands of regenerated young trees. These unnatural  
17713 conditions have created more frequent high-intensity wildfires with permanent adverse impacts to  
17714 archaeological sites. These impacts include but are not limited to, historic sites completely burned  
17715 down, and the accelerated erosion of site features caused by hydrophobic soils, denuding of the  
17716 ground surface exposing cultural materials.

#### 17717 Timber and Vegetation Management

17718 Logging on the forest can directly impact sites by temporary road construction, landings, movement  
17719 of heavy equipment across the ground surface, skidding of trees and indirect impacts from over-  
17720 harvesting, which can lead to erosion. Commercial timber and fuel wood harvesting has occurred  
17721 across the forest since the late 1870s. During the 1920s, an extensive network of logging railroads  
17722 were constructed on the Colville National Forest.

## **Recreation Activities**

Areas popular with campers are often near water, scenic vistas, or flat areas that were also commonly used prehistorically. Camping has impacted sites and can lead to looting and unintentional vandalism of sites. Sites that are near camping areas can be damaged by campers exploiting rock materials from structures and features for fire pits and for other camping activities, digging holes for latrines or trenches for discharging gray water; illegal collecting surface artifacts and rearrangement of artifacts into piles, using pieces of collapsed wooden historic structures as firewood, and clearing of space for tents and other equipment. Indirect impacts from camping include damage from erosion resulting from changes in soil compaction and denuding of vegetation.

Non-motorized trails, once established, generally do not themselves pose a large threat to sites; but like roads, easy access to sites facilitates vandalism, digging of holes within the site to dispose of waste, illegal collection of surface artifacts and looting. Established motorized and non-motorized trails through or near sites have caused direct and indirect impacts by increasing visitation resulting in vandalism. Some of the motorized and non-motorized trails were converted from forest system or temporary roads and the sites were impacted by the original construction of the roads.

## **Looting and Vandalism**

Intentional looting and vandalism of sites on public lands is a problem throughout Washington. Some of these activities are conducted for illegal recreation and others for illegal gain. When a site is looted significant contextual information and parts of our history are stolen and destroyed. As transportation technology has advanced (i.e., 4-wheel drive) a greater number of roads have provided access to remote areas. The increasing number of roads and trails provides access to remote sites and provides looters a convenient method to easily transport heavy, awkward historical artifacts or delicate archaeological items and/or larger quantities of those items that previously would have been difficult to remove from the backcountry. Carved, inked, or painted graffiti on historic structures creates permanent damage, and at archaeological and historical sites, degrades their setting.

## **Environmental Consequences**

The land management plan provides a programmatic framework that guides site-specific actions but does not authorize, fund, or carry out any project or activity. Because the land management plan does not authorize or mandate any site-specific projects or activities [not limited to ground-disturbing actions (i.e., extensive modification of view-sheds or vegetation adjacent to historic structures, TCPs or sacred may be adverse)] there can be no direct effects. However, there may be implications, or longer term environmental consequences, of managing the forest under this programmatic framework.

Under the provisions of the National Historic Preservation Act (NHPA 1966, as amended; 16 U.S.C. §470), adverse effects to cultural resources include a variety of criteria affecting the potential eligibility of cultural resources for inclusion on the National Register of Historic Places (36 CFR §800.9b). Specifically, effects may be deemed adverse according to the following (36 CFR §800.5[1]):

An adverse effect is found when an undertaking may alter, directly or indirectly, any of the characteristics of a historic property that qualify the property for inclusion in the National Register in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or association. Consideration shall be given to all qualifying characteristics of a historic property, including those that may have been identified subsequent to the original evaluation of the property's eligibility for the National Register. Adverse effects may include



17767 reasonably foreseeable effects caused by the undertaking that may occur later in time, be farther  
17768 removed in distance or be cumulative.

17769 Cultural resource surveys for specific actions (e.g., timber sales, vegetation treatments) would be  
17770 conducted prior to approving site-specific projects in compliance with Federal law and Forest  
17771 Service policy. Prior to the forest making a decision on a site-specific action that is subject to NHPA,  
17772 the forest would complete archeological surveys to locate, evaluate sites for the NRHP, and analyze  
17773 the effects of the proposed use or activity in compliance with the R6 programmatic agreement.  
17774 Following the identification and recording of cultural resources, mitigation measures appropriate to  
17775 the proposed undertaking would be implemented. For example, such measures could include  
17776 avoidance of cultural resources by redesigning the project boundaries, modifying construction plans,  
17777 or excluding site areas from treatments. In cases where specific activities would constitute an adverse  
17778 effect and avoidance could not be accomplished, the adverse effects would be resolved in accordance  
17779 with 36 CFR 800.

## 17780 Methodology and Analysis Process

17781 The primary legislation governing cultural resource management is the National Historic  
17782 Preservation Act (NHPA) of 1966 (amended in 1976, 1980, and 1992). Section 106 of NHPA  
17783 requires that Federal agencies take into consideration the effects of their undertakings on historic  
17784 properties, which are defined in 36 CFR 800.16(l) as any district, site, building, structure, or object  
17785 that is included in or eligible for inclusion in the National Register of Historic Places (NRHP). The  
17786 “Section 106 review process,” entails five steps: (1) determining whether the proposed action is an  
17787 undertaking that has the potential to affect historic properties); (2) identifying historic properties;  
17788 (3) evaluating the significance of historic properties; (4) assessing effects; and (5) consulting with  
17789 interested parties (including Native People), the State Historic Preservation Officer (SHPO), and the  
17790 Advisory Council on Historic Preservation (ACHP). Section 110 (Federal Agencies’ Responsibility  
17791 to Preserve and Use Historic Properties) of the NHPA provides direction to Federal agencies to  
17792 establish programs and activities to identify and nominate historic properties to the NRHP and to  
17793 consult with tribes. The Pacific Northwest Region has a programmatic agreement with the ACHP and  
17794 Washington SHPO that stipulates the Forest Service’s responsibilities for complying with NHPA.

17795 Under the regulations, an adverse effect is found when an undertaking may alter, directly or  
17796 indirectly, any of the characteristics of a historic property that qualify the property for inclusion in  
17797 the National Register in a manner that would diminish the integrity of the property’s location, design,  
17798 setting, materials, workmanship, feeling, or association.

17799 Consideration shall be given to all qualifying characteristics of a historic property, including those  
17800 that may have been identified subsequent to the original evaluation of the property’s eligibility for  
17801 the National Register. Adverse effects may include reasonably foreseeable effects caused by the  
17802 undertaking that may occur later in time, be farther removed in distance or be cumulative. Specific  
17803 examples of adverse effects cited in statute include (36 CFR 800.5):

- 17804       • Physical destruction of or damage to all or part of the property.
- 17805       • Removal of the property from its historic location.
- 17806       • Change of the character of the property’s use or of physical features within the property’s  
17807       setting that contribute to its historic significance.
- 17808       • Introduction of visual, atmospheric, or audible elements that diminish the integrity of the  
17809       property’s significant historic features.

The analysis includes a review of the alternatives and an assessment of the potential impacts each alternative could have to cultural resources on the forest. The criteria used for establishing the area of potential effect for cultural resources was based on the possible acres treated within each potential natural vegetation type (PNVT) and the boundary of each management area. The existing condition was determined by reviewing the NRHP, a review of forest's archaeological site and inventory files, cultural resource management overviews, heritage Geographic Information System (GIS) database, and other natural resource and fire history databases.

### *Assumptions*

In the analysis for this resource, the following assumptions have been made:

- The land management plan provides a programmatic framework for future site-specific actions.
- The plan decisions (desired conditions, objectives, standards, guidelines, special areas, suitability, monitoring) would be followed when planning or implementing site-specific projects and activities.
- Analysis and impacts to cultural resources from site-specific actions would be addressed at the time site-specific decisions are made.
- Law, policy, and regulations would be followed when planning or implementing site-specific projects and activities.
- The agency has the capacity (e.g., funding, personnel, other resources) to accomplish the minimum planned objectives.
- There is no cross-country motorized use where prohibited.
- Burning could occur across all NFS lands.
- Unplanned ignitions are analyzed at the time of the fire's start and documented in the Wildland Fire Decision Support System (WFDSS). Management response to a wildfire is based on objectives appropriate to conditions of the fire, fuels, weather, and topography to accomplish specific objectives for the area where the fire is burning. Effects to cultural resources are considered when determining the objectives and management response to a wildfire
- The kinds of resource management activities allowed under the prescriptions are reasonably foreseeable future actions to achieve the goals and objectives of the forest plan. The specific location, design, and the extent of such activities are generally not known. The effects analysis is intended to be useful for comparing and evaluating alternatives on a forestwide basis. It is not intended to be applied directly to specific locations on the forest.
- Prior to making a project-level decision that is subject to NHPA, the forest would complete cultural resource surveys to locate and evaluate sites for the NRHP and analyze the effects of the proposed use or activity in compliance with the *Programmatic Agreement Among the United States Department of Agriculture, Forest Service, Pacific Northwest Region (Region 6), the Advisory Council on Historic Preservation, and the Washington State Historic Preservation Officer Regarding Cultural Resources Management on National Forests in the State of Washington* (R6 programmatic agreement) (USDA FS 1997). Following the identification and recording of cultural resources, mitigation measures appropriate to the proposed undertaking would be implemented. For example, such measures could include avoidance of cultural resources by redesigning the project boundaries, modifying

construction plans, or excluding site areas from treatments. In cases where specific activities would constitute an adverse effect and avoidance could not be accomplished, the adverse effects would be resolved in accordance with 36 CFR 800.

- *Programmatic Agreement among the NF in WA State and WA SHPO, ACHP regarding Recreation Residence, Recreation Residence Tract and Organizational Camp/Club Management* (2006) provides guidance on best preservation practices for recreational residences located on National Forest System lands.

## **Relationship of Short-term Uses and Long-term Productivity**

Traditional cultural areas used for collecting forest and mineral resources could be affected by the temporary closure of areas from wildland fires and treatments. Many of the traditionally used plants respond to fire by increasing productivity. All alternatives propose to treat a similar number of acres with fire and would potentially increase the long-term productivity of traditionally used forest resources and availability of those resources across the landscape. Access to visiting cultural resources (archaeological sites and TCPs) could be affected in the short term during implementation of prescribed burn treatments.

Conducting prescribed burns has the potential to restore the natural and cultural landscape, and the natural fire regime, reducing the potential for permanent adverse effects from high-intensity, high-severity fires. Mechanized treatments have the similar benefits to cultural resources as fire treatments because they would reduce the potential for permanent adverse effects from fire, but these treatments have the highest potential for long-term indirect effects from erosion caused from intensive ground disturbance near sites. In addition, slash from mechanized treatments is often piled and burned, resulting in more locations with hydrophobic soils, increasing erosion to sites if the burn piles were located near sites.

## **Unavoidable Adverse Impacts**

The land management plan provides a programmatic framework that guides site-specific actions but does not authorize, fund, or carry out any project or activity. Before any proposed actions (not limited to ground-disturbing actions) take place, they must be authorized in a subsequent site-specific environmental analysis. Therefore, none of the alternatives cause unavoidable adverse impacts. Mechanisms are in place to monitor and use adaptive management principles to help alleviate any unanticipated impacts that need to be addressed singularly or cumulatively.

## **Irreversible and Irretrievable Commitment of Resources**

The land management plan provides a programmatic framework that guides site-specific actions, but does not authorize, fund, or carry out any project or activity. Because the land management plan does not authorize or mandate any site-specific project or activity (not limited to ground-disturbing actions), none of the alternatives cause an irreversible or irretrievable commitment of resources.

## **Adaptive Management**

All alternatives assume the use of adaptive management principles. Forest Service decisions are made as part of an ongoing process, including planning, implementing projects, and monitoring and evaluation. The land management plan identifies a monitoring program. Monitoring the results of actions would provide a flow of information that may indicate the need to change a course of action or the land management plan. Scientific findings and the needs of society may also indicate the need to adapt resource management to new information.

## **Effects of Alternatives**

Cultural resources, depending on their nature and composition, are subject to different types of impacts from vegetation management, fire, livestock grazing, infrastructure, recreation, looting and vandalism, and land adjustments

All the alternatives propose treatments that result in restoring ecosystem health. This has the potential to reduce the potential adverse effects to cultural resources from uncharacteristic high-intensity and high-severity fires. These treatments would also lead to the restoration of natural processes and the landscape, which in turn, has the potential to restore the historic setting and cultural landscapes of the forest.

Ground-disturbing activities (including mechanical activities) are the dominant cause of potential impacts to cultural resources in all alternatives. The potential types of affects to cultural resources from the proposed treatments in the alternatives are the same. Differences, however, may be found among the alternatives regarding the number of cultural resources that would be potentially impacted by the treatments.

## **Heritage Program Management**

### *National Register Sites and TCPs*

The 1988 forest plan (alternative A) has not been amended to reflect the 1992 requirements and amendments to the NHPA. The 1992 amendments clarified Section 110, language terms, and required each Federal agency to establish a historic preservation program. The program must provide for the identification and protection of the agency's historic properties; ensure that such properties are maintained and managed with due consideration for preservation of their historic values; and contain procedures to implement Section 106, which must be consistent with the ACHP regulations. Alternative A also does not address requirements of the Native American Graves Repatriation Act of 1990 (NAGPRA), E.O. 13007 Indian Sacred Sites, E.O. 13175 Consultation and Coordination with Indian Tribal Governments, and E.O. 13287 Preserve America. The focus of management and guidelines for forest resources within the 1988 plan were developed prior to the passage or issuance of these statutes which lead to more impacts to historic properties. Emphasis is on use of timber and multiple use activities that incorporate the location of archaeological sites and TCPs that may not be compatible with those uses. The action alternatives have incorporated the passage of these statutes and issuance of executive orders providing for increased consideration and management to preserve historic properties for their historic and cultural values.

Under all alternatives, the Forest would continue to fulfill its responsibilities to conduct non-project related inventory surveys and nominate sites that are eligible to the NRHP to protect and preserve cultural resources per Section 110 of NHPA, E.O. 11593, and Section 14 of ARPA. Internal and outside funding sources, researchers, partners and volunteers would be sought to assist in research and preservation projects. Public outreach and interpretation would continue to be provided through heritage programs, projects, and interpretive materials. The identification, evaluations, and analysis of the effects from proposed actions to cultural resources that are eligible, nominated, or listed on the NRHP would be completed to meet the requirements of Section 106 of NHPA.

Most of the discussion regarding impacts focuses on effects to archeological sites because they are discreet locations that are more easily identified. Traditional use areas accessed for the collection of traditional materials may also be impacted. The Forest consults with three different tribal governments that have a cultural affiliation to the area. At present, tribes have not identified concerns or issues that the alternatives would result in adverse impacts to known and unidentified TCPs.

17939 Government-to-government consultation would continue between the Forest and the tribes. If tribal  
17940 consultation results in identification of additional, currently unidentified, traditional uses and  
17941 traditional cultural properties, impacts to those areas would be considered during site-specific  
17942 environmental assessments.

#### 17943 *Public Outreach and Education*

17944 In all alternatives, the Forest would continue to fulfill its responsibilities to promote and invest in  
17945 public education and outreach to meet the intent NHPA Section 110, E.O.13287 Preserve America,  
17946 and ARPA section 10(c). The forest's heritage program would continue to provide opportunities to  
17947 the public to promote cultural resource stewardship and conservation through volunteer programs,  
17948 recreation opportunities, interpretation, and presentations. These programs are intended to increase  
17949 public awareness of the significance of the archaeological resources located on public lands and the  
17950 need to protect those resources. This awareness may result in reducing the number incidents and  
17951 severity of damage caused by looting, vandalism, and unintentional vandalism from recreational  
17952 activities.

#### 17953 **Relationship of Short-term Uses and Long-term Productivity**

17954 Traditional cultural areas used for collecting forest and mineral resources could be affected by the  
17955 temporary closure of areas from wildland fires and treatments. Many of the traditionally used plants  
17956 respond to fire by increasing productivity. All alternatives propose to treat a similar number of acres  
17957 with fire and would potentially increase the long-term productivity of traditionally used forest  
17958 resources and availability of those resources across the landscape. Access to visiting cultural  
17959 resources (archaeological sites and TCPs) could be affected in the short term during implementation  
17960 of prescribed burn treatments.

17961 Conducting prescribed burns has the potential to restore the natural and cultural landscape, and the  
17962 natural fire regime, reducing the potential for permanent adverse effects from high-intensity, high-  
17963 severity fires. Mechanized treatments have the similar benefits to cultural resources as fire treatments  
17964 because they would reduce the potential for permanent adverse effects from fire, but these treatments  
17965 have the highest potential for long-term indirect effects from erosion caused from intensive ground  
17966 disturbance near sites. Also, slash from mechanized treatments is often piled and burned, resulting in  
17967 more locations with hydrophobic soils, increasing erosion to sites if the burn piles were located near  
17968 sites.

#### 17969 **Cumulative Effects**

17970 The cumulative effects on cultural resources should take into account all surface-altering actions that  
17971 have occurred or are likely to occur within the forest, as well as those actions that modify view-sheds  
17972 and vegetative material in and adjacent to historic properties to include TCPs and Sacred Sites. Some  
17973 of the recorded sites on the forest are at least statewide significant, and a few are nationally  
17974 significant. This statewide or national importance of some sites within the forest reinforces the need  
17975 for protecting significant local cultural resources that may be affected from cumulative impacts of  
17976 management activities within the forest and state. Federal, tribal and state lands adjacent to the  
17977 Forest comprised the analysis area for cumulative effects.

#### 17978 **Livestock Grazing**

17979 This section evaluates and discloses the potential environmental consequences on the range resource  
17980 that may result with the adoption of a revised land management plan. It examines, in detail, six

17981 different alternatives for revising the 1988 Colville National Forest Land and Resource Management  
17982 Plan.

## 17983 **Affected Environment**

17984 Background: The rangelands of the planning area and many of the major perennial grasses (such as  
17985 bluebunch wheatgrass and Idaho fescue) did not evolve with substantial ungulate grazing  
17986 (Daubenmire 1970). Year-long open-range grazing in the late 1800s and into the early 1900s was of  
17987 such magnitude and had such devastating legacy results, that grazing laws were developed for public  
17988 lands by 1910. In the planning area, season-long sheep and cattle grazing without rotation or rest was  
17989 prevalent in the first half of the 20th century and caused degraded conditions in many grasslands and  
17990 meadows (Franklin and Dyrness 1988, Alverson and Arnett 1986). The effects of past management  
17991 are apparent in the high amount of non-native grasses like Kentucky bluegrass (*Poa pratensis*), reed  
17992 canarygrass (*Phalaris arundinacea*) and redtop (*Agrostis alba*) in low elevation meadows  
17993 (Kovalchik and Clausnitzer 2004). Disturbed steppe and shrub-steppe communities that were once  
17994 characterized by perennial bunchgrasses now have a strong forb component or are dominated by  
17995 introduced species (Clausnitzer et al. 2006). Overgrazing of green fescue (*Festuca viridula*), an  
17996 important dominant bunchgrass of montane and subalpine herbaceous vegetation types, has caused  
17997 soil erosion and increases in unpalatable forb and dwarf-shrub species in some areas that have  
17998 persisted into presence (Clausnitzer et al. 2006, Shiflet ed. 1974). The recovery rates of bunchgrass  
17999 communities are slow and may never reach their former status after severe overgrazing (Franklin and  
18000 Dyrness 1988).

18001 Potential Natural Vegetation: Grazing allotments on the Colville National Forest cover about  
18002 745,000 acres (68 percent) of administered forest lands. At the landscape scale, the potential natural  
18003 vegetation within grazing allotments consists predominantly of forested communities. Douglas-fir  
18004 forests are the potential natural vegetation for 50 percent of the landscape within range allotments,  
18005 28 percent of the allotments are characterized by western hemlock communities, and 20 percent are  
18006 occupied by subalpine forest communities. The remaining area within the allotments are mapped as  
18007 dry ponderosa pine forests (1 percent) and grass- and shrublands (1 percent). At a finer scale, the  
18008 predominantly forested landscape includes many montane and subalpine meadows, wetlands, and  
18009 riparian communities as described by Clausnitzer et al. (2006). Many of these non-forest and  
18010 deciduous forest communities are small-sized or linear features along lake margins and riparian  
18011 communities, therefore, they are treated as inclusions in the landscape-scale potential natural  
18012 vegetation model for the Colville National Forest.

18013 Current condition: Much of the forested landscape consists of dense conifer stands with canopy  
18014 covers greater than 60 percent. Gradient Nearest Neighbor analysis (Ohmann and Gregory 2002)  
18015 shows that 57 percent of the allotment area has canopy covers greater than 60 percent, 25 percent has  
18016 canopy covers of 40 to 60 percent, and only 19 percent has canopy covers less than 40 percent. Sites  
18017 with canopy covers greater than 60 percent would likely provide little to no forage, sites with canopy  
18018 covers of 40 to 60 percent would provide some forage, and sites with canopy cover less than 40  
18019 percent would provide the most forage. Western hemlock forests do not tend to produce significant  
18020 livestock forage even at early seral stages and are, therefore, not considered suitable rangelands.  
18021 Other forest communities should be considered transitory range, but are currently highly stocked  
18022 with limited forage production. Future desired conditions for dry conifer communities would favor  
18023 open canopies, compared to current conditions, and potentially improve forage availability in these  
18024 stands.

18025 During the homestead era from the 1890s to the 1930s, approximately 4,000 acres of “homestead  
18026 meadows” were created across the Colville National Forest. These areas are primarily upland sites

that were historically cleared of timber and cultivated to grow crops. Today, these meadows are considered forest system lands managed by the Forest Service. They are dominated by non-native vegetation that provides valuable forage for livestock and wild ungulates. These areas are considered highly departed from their site potential with species such as Kentucky bluegrass (*Poa pratensis*), orchard grass (*Dactylus glomerata*), and common timothy (*Phleum pratense*) as dominant vegetation mixed with native forbs. These sites are susceptible to invasive plant establishment and spread and require treatments to control invasive species.

Few condition and trend monitoring data are available for the Colville National Forest. Fifteen historic rangeland condition and trend plots, established in the early 1960s and late 1970s, were relocated and inventoried in 2002 and 2005. Vegetation at inventoried sites consists of seeded redtop clearings or meadows (4), Idaho fescue grasslands (2), Sandberg bluegrass grassland (1), subalpine grasslands with green fescue (3), snowberry shrubland (1), forested communities with ponderosa pine (2) or Douglas-fir (1), and a lodgepole pine site with spotted knapweed (1). The 2002/2005 forage condition ratings from the Parker-3-Step inventory was good for 7 sites, fair for 4 sites and poor for the remaining 4 sites. The trend after 30 to 50 years is up for two sites, down for four sites, and static for the remainder.

Livestock grazing on lands of the Colville National Forest has changed dramatically over the past century. Prior to the Forest's establishment, grazing was largely unregulated with mostly cattle and sheep grazing the rangelands. The Colville National Forest was created as a National Forest Reserve in 1907, and records indicate that the first grazing permit was issued in 1911. Relatively large numbers of sheep and cattle grazed the Colville National Forest during the 1920s, 1930s, and 1940s with cattle utilizing the lower elevations and sheep grazing the higher elevations, especially in the Kettle Crest mountain range. During the 1950s, the majority of sheep grazing ceased on the Forest, and today almost all permitted grazing is for cattle with only one sheep allotment (currently vacant) remaining.

Livestock grazing on the Colville National Forest is an important use to the local ranching industry and local communities. Grazing on public lands contributes directly to livestock forage needs. The total contribution of national forest land grazing is understated. Forest Service allotments are valuable grazing areas that not only provide foraging opportunities within permitted seasons, but they also afford permit holders the opportunity to grow forage on other private ranch lands that are needed to sustain livestock during periods when they are not on the national forest. Permitted livestock grazing on the Colville National Forest helps to maintain the social customs and traditions of ranching and agriculture, and provides social and economic contributions at a local, regional, and national level.

Ecological conditions and trends in forage areas have been evaluated annually (utilization and actual use) and extensively (long-term monitoring sites) during the allotment NEPA process for each allotment. The majority of long-term monitoring sites show an improvement in condition and trend. The exception to this is where tree density has increased, which has resulted in a reduction in forage production.

Livestock are attracted to areas with high amounts of forage and water. Wetlands, springs, and streams on the Forest can be negatively affected by this use. Recent range NEPA analyses have addressed issues in these areas, and the Forest would continue to evaluate livestock effects in these areas.

## **Range Allotments and Permitted Livestock**

Livestock grazing on the Colville National Forest is an important use to the local ranching industry and local communities. Grazing on public lands contributes directly to livestock forage needs. The total contribution of national forest land grazing is understated. Forest Service allotments are valuable grazing areas that not only provide foraging opportunities within permitted seasons, but they also afford permit holders the opportunity to grow forage on other private ranch lands that are needed to sustain livestock during periods when they are not on the National Forest. Permitted livestock grazing on the Colville National Forest helps to maintain the social customs and traditions of ranching and agriculture and also provides social and economic contributions at a local, regional and national level.

Relatively large numbers of sheep and cattle grazed the Colville National Forest during the 1920s, 1930s and 1940s with cattle utilizing the lower elevations and sheep grazing the higher elevations, especially in the Kettle Crest mountain range. During the 1950s, the majority of sheep grazing ceased on the Forest. Today almost all permitted grazing is for cattle with only one sheep allotment, which is currently vacant, remaining.

Over the life of the existing 1988 forest plan, permitted Animal Unit Months (AUMs) have declined from a 1988 Average of 35,000 per year to a current average of approximately 29,500 per year. Today, there are a total of 58 grazing allotments where 42 currently have permitted use and 16 are in a vacant status. Most vacant allotments cannot be permitted at this time due to there being no current NEPA document which assesses the effects of grazing and no current allotment management plan (AMP). Vacant allotments would be assessed at the project level to determine the appropriateness of future grazing use.

Thirty-eight of the total 58 active and vacant grazing allotments have been assessed under regional protocols for resource conditions, and environmentally analyzed under the provisions of the National Environmental Policy Act of 1969 (NEPA) and the Rescission Act of 1995. This process still needs to occur for the remaining allotments. An adaptive management strategy analyzed through the NEPA process is commonly used to provide livestock management flexibility to allow for changing resource conditions. Implementation of an adaptive management framework is dependent upon appropriate NEPA analysis of potential management strategies and/or practices that may be implemented due to changing resource conditions as well as regulatory or policy changes. Monitoring is also a key component in successfully implementing an adaptive management framework.

Livestock grazing is authorized through the NEPA planning process that allocates forage for grazing, and a permit system administers the authorized grazing within individual allotments. Allotment management plans (AMPs), also developed from the NEPA planning process, provide site-specific details for management of the resource and identify mitigation measures needed to reduce identified potential grazing impacts in order to meet or move toward management objectives, as well as any required monitoring. A variety of range and livestock management tools such as herding, rotational grazing, off-site water development and fencing can be implemented on grazing allotments in order to facilitate improved allotment management, livestock management and natural resource protection.

## **Riparian Areas**

Livestock are attracted to areas with water and available forage. Cattle, if not actively managed, tend to stay in and graze gentle-gradient riparian areas to an extent that can interfere with attaining the desired vegetation and soil resource conditions for these areas. Adaptive management practices



18114 commonly utilized on the Colville National Forest to reduce impacts from grazing on riparian areas  
18115 include;

- 18116 • Creation of pastures and development of grazing strategies that provide for deferment, rest  
18117 and/or vegetative recovery
- 18118 • Off-stream/off-site water development and trough placement
- 18119 • Salting livestock in upland areas
- 18120 • Fencing and/or brush barriers
- 18121 • Armored stream crossings

18122 Current allotment management focuses on strategies to move livestock enough to distribute their use  
18123 and impacts throughout pastures and prevent concentration in the riparian areas. Monitoring and  
18124 identifying appropriate “thresholds and trigger points” is a key component in successfully  
18125 implementing an adaptive management practice.

## 18126 **Rangeland Resources**

18127 Rangelands provide for a wide variety of tangible products which include forage for grazing and  
18128 browsing animals, wildlife habitat, water, minerals, recreation, and wood products. Rangelands also  
18129 produce intangible products such as natural beauty and scenery. The ability of these lands to support  
18130 the needs of grazing and browsing animals is a result of their capacity to produce rangeland  
18131 vegetation and forage.

18132 As a result of development and sub-division of private property, which has reduced the amount of  
18133 private grazing lands, demand for public land grazing on the Colville National Forest is experienced  
18134 to be constant or increasing. Currently, the demand for Forest Service permitted grazing is higher  
18135 than our ability to supply suitable areas.

## 18136 **Climate Change**

18137 Climate change may have the potential to affect grazing capacity in both the short term and long  
18138 term. Changes in forage production may result from predicted shifts in precipitation patterns and  
18139 increased temperatures.

18140 “Uncertainty about climate projections are much greater at the local and regional scales important to  
18141 land managers because uncertainties amplify as data and model outputs are downscaled. Ecological  
18142 response to climate related changes is highly likely to be more difficult than climate to model  
18143 accurately at local scales. Though there is uncertainty based on modeling, it does not imply a  
18144 complete lack of understanding regarding climate change and grazing lands. Managing in the face of  
18145 uncertainty would best involve a suite of approaches, including planning analyses that incorporate  
18146 modeling with uncertainty, and short-term and long-term strategies that focus on enhancing  
18147 ecosystem resistance and resilience, as well as actions taken that help ecosystems and resources  
18148 move in synchrony with the ongoing changes that result as climates and environments vary.  
18149 Flexibility to address the inherent uncertainty about local effects of climate change could be achieved  
18150 through enhancing the resiliency of forests. Efforts to address existing stressors would address  
18151 current management needs, and potentially reduce the future interactions of these stressors with  
18152 climate change.” (U.S. Climate Change Science Program 2008)

18153 Although we know an ecosystem’s sensitivity to grazing pressure and threshold for degradation  
18154 changes with bioclimatic setting, resulting in lower sustainability in very dry and very humid  
18155 ecosystems (Asner et al. 2004), the future bioclimatic setting within the project area is highly

uncertain. It is very likely that as future average temperatures increase, snow pack would be reduced and snowmelt, run-off and peak flows would occur earlier in the year (USDA 2008). In addition, with increased atmospheric carbon, primary production is expected to increase particularly on semi-arid rangelands (Derner et al. 2005). It has been hypothesized that grazed areas resulting in a lower soil water holding capacity and lower temperature sensitivity of soil respiration might release less CO<sub>2</sub> to the atmosphere through soil respiration under future precipitation and temperature scenarios.

## **Need for Change**

### **Desired Conditions for Livestock Grazing for Alternatives**

- There are opportunities to engage in ranching activities and graze livestock on NFS lands. These activities contribute to the stability and social, economic, and cultural aspects of rural communities.
- The desired structure and diversity of native herbaceous plant communities (including highly palatable forage species) are maintained or enhanced through proper livestock management principles. Rangelands consisting of native plant communities such as open conifer forests, low elevation grasslands, shrub-steppe plant communities and meadows have few to no invasive plant species, have stable or improving ecological conditions, and are resilient to disturbance events. Rangelands with significant non-native plant components (seeded meadows or historically overgrazed sites) have stable or improving soil stability.
- Rangelands and forestlands provide forage for use by both livestock and wildlife. Grazing continues to be a viable use of vegetation on the Forest. Availability of lands identified as suited for this use contributes to providing animal products, economic diversity, open space, and promotes cultural values and a traditional local life style. Allotments are generally grazed on an annual basis.
- Consistent with sustaining other resource desired conditions, a viable level of forage is available for use under a grazing permit system where use generally occurs on an annual basis generally between June and October. Riparian and upland areas within allotments reflect ecological conditions supporting the desired conditions, including those described in the Wildlife, Aquatic and Riparian, Soil, and Vegetation Desired Conditions.

### **Guidelines for Livestock Grazing for Alternatives**

- Current livestock management practices should be compatible for the maintenance and, where necessary, improvement of native plant communities.
- New construction and reconstruction of fences and water developments would follow Forest Service specifications.
- Annual operating instructions for livestock grazing permittees should ensure livestock numbers are balanced with capacity and address any relevant resource concerns (e.g., forage production, wildlife, weeds, soils, etc.).
- Post-fire grazing should not be authorized until Forest Service range staff confirms range readiness.
- Livestock use in and around wetlands should be evaluated on an allotment specific basis.

### **Old Forest Management and Timber Production**

In the revision of the Forest Plan, three broad-scale concerns drove the need to consider how we address old forest management, especially the current reserve system approach at the landscape scale. These are:

- 18199       • The recent history of uncharacteristic levels of disturbances resulting from fire and insect  
18200       and disease activity that would likely continue into the future.
- 18201       • The interaction between disturbances and climate change that elevates the importance of  
18202       restoring landscape resiliency.
- 18203       • Uncertainty about the recovery and viability of old forest-dependent species given the  
18204       increased risk of uncharacteristically severe disturbances that is likely to be exacerbated by  
18205       climate change impacts.

#### 18206   **Motorized Recreation Trails**

18207   The current land management plans provide direction for summer and winter motorized uses,  
18208   including identifying areas where such use may not be authorized or is limited, mainly for protection  
18209   of aquatic, plant, and wildlife habitats.

18210   The goal for recreation settings and experiences would include providing a spectrum of high quality,  
18211   nature-based outdoor recreational settings where visitors access the Forest, including access to the  
18212   biological, geological, scenic, cultural, and experiential resources of the Forest. Where the visitor's  
18213   outdoor recreational experience involves few conflicts with other users, access is available for a  
18214   broad range of dispersed recreation activities such as dispersed camping, rock climbing, boating,  
18215   mushroom and berry picking, hunting, and fishing and these experiences are offered in an  
18216   environmentally sound manner, are within budget limits, and contribute to the local economy.

#### 18217   **Access**

18218   Three broad concerns drove the need to address road density:

- 18219       1. The Forest can no longer afford to properly maintain the road system at current operational  
18220       maintenance levels,
- 18221       2. The current road system is not aligned with current and future resource management  
18222       objectives, and
- 18223       3. The existing road management direction is confusing and difficult to follow because it is  
18224       scattered throughout the current Forest Plan (Colville National Forest Land and Resource  
18225       Management Plan), Forest Plan amendments (Eastside Screens, Interim Inland Native Fish  
18226       Strategy for the Intermountain, Northern, and Pacific Northwest Regions [INFISH, USDA  
18227       Forest Service 1994 and 1995]), national-level decisions (the Roadless Rule), and interim  
18228       policy (e.g., Grizzly Bear No-Net-Loss, Lynx Agreement, the Interior Columbia Basin  
18229       Strategy).

#### 18230   **Recommended Wilderness Areas**

18231   By law, all National Forest System lands must be evaluated for possible wilderness recommendation  
18232   during the plan revision process. The result of that evaluation shows whether a need exists for  
18233   additional wilderness and what trade-offs may exist if the area is eventually designated part of the  
18234   National Wilderness Preservation System.

18235   Currently, the Salmo-Priest Wilderness covers about 3 percent of the Colville National Forest and  
18236   evaluation showed a need for additional wilderness opportunities on the Forest. A review of possible  
18237   areas showed some are available to fill this need.

## Wildlife

The current Forest Plan provides limited protection for habitat connectivity, providing wildlife and aquatic crossing structures, and managing activities adjacent to the structures so they are used by wildlife.

## Riparian and Aquatic Resource Management

The current Forest Plan includes riparian management direction from the Inland Native Fish Strategy (INFISH, USDA Forest Service 1994 and 1995). This approach appears to have either maintained or improved riparian and aquatic habitat conditions at the watershed and larger scales.

Objectives for riparian management areas would give emphasis to maintaining or restoring the riparian and aquatic structure and function of intermittent and perennial streams, confer benefits to riparian-dependent plant and animal species, enhance habitat conservation for organisms that are dependent on the transition zone between upslope and riparian areas, contribute to improved water quality and flows, and contribute to a greater connectivity of the watershed for both riparian and upland species.

Desired conditions for riparian management areas within any given watershed are to have compositions of native flora and fauna and a distribution of physical, chemical, and biological conditions commensurate with natural processes

## Environmental Consequences

### Methodology

### Assumptions

- This programmatic analysis does not analyze changes that may occur to livestock management at an allotment level. Instead, project level analysis would be completed independent of this planning effort at the allotment level to determine the appropriate intensity, timing and duration of livestock use.
- The proposed plan allows for site-specific determinations relating to allotment management, such as the proper grazing systems and range improvements needed to meet desired conditions.
- The proposed plan sets objectives for vegetation treatment and manipulation practices that contribute to the amount and condition of rangeland vegetation. (1982 Rule Sec. 219.20 (a)).
- Conflict or beneficial interactions among livestock and wild animal populations are managed at the allotment level through adaptive management and appropriate mitigation measures (1982 Rule Sec. 219.20 (b)).
- The proposed plan, through desired conditions and objectives for each management area, provides direction to move rangelands in unsatisfactory condition toward desired conditions. Implementation occurs at the allotment level (1982 Rule Sec. 219.20 (b)).
- Under all alternatives, project level analysis, including season of use, permitted livestock numbers, and forage use levels occur at the allotment level. Livestock grazing under all alternatives would be managed with adaptive management to match livestock numbers with annual forage production and resource needs based upon assessment and monitoring data.
- Climate change may affect forage conditions on the forests. Under all alternatives, adaptive management used in allotment management planning allows for adjustments in the number

18279 of livestock and season of pasture use so that livestock use matches forage production for  
18280 every grazing season.

- 18281 • Rangeland capability does not change across alternatives.

### 18282 *Methods of analysis*

18283 Constraints to livestock grazing were identified and include availability of forage, impacts to  
18284 rangeland vegetation, access for administration of grazing allotments, and modification of allotment  
18285 management resulting from wildlife and riparian management concerns. Level of risk is assessed  
18286 using percent of forest allocated to a management area that is associated with the risk, either  
18287 increasing or decreasing the risk; or risks are assessed by looking at changes in plan components by  
18288 alternative.

18289 This section describes the capability and suitability of National Forest System (NFS) lands for  
18290 producing forage for grazing animals and for providing habitat for wildlife. It also describes the  
18291 potential environmental consequences of vegetation treatments (mechanical and fire) on the  
18292 rangeland resource.

18293 An Animal Unit Month (AUM) is the amount of dry forage consumed by one animal unit over 30  
18294 days. An Animal Unit is one 1000-pound cow with or without a calf under six months, or five sheep

18295 The methods for determining acres of land capable and suitable for livestock grazing are described in  
18296 detail in Appendix A and Appendix B of the specialist report. The boundary for the suitability  
18297 analysis contains all Forest System Lands within the boundaries of the Colville National Forest.

### 18298 **Incomplete and Unavailable Information**

18299 There is no incomplete or unavailable information regarding this analysis.

### 18300 **Spatial and Temporal Context for Effects Analysis**

18301 The spatial affected environment for direct and indirect effects is the lands administered by the  
18302 Colville National Forest. Effects are analyzed over the life of the forest plan, which is 15 to 20 years.

### 18303 **Past, Present, and Foreseeable Activities Relevant to Cumulative** 18304 **Effects Analysis**

- 18305 • Sub-division of private lands and development.
- 18306 • Grazing on adjacent Federal, state and private lands.
- 18307 • Wildfire.

### 18308 **Summary of Effects**

18309 The land management plan provides a programmatic framework that guides site-specific actions but  
18310 does not authorize, fund, or carryout any project or activity. Because the land management plan does  
18311 not authorize or mandate any site-specific projects or activities there can be no direct effects.  
18312 However, there may be implications, or longer-term environmental consequences, of managing the  
18313 forest under this programmatic framework.

18314 All alternatives provide similar guidance for managing livestock grazing. The management focus is  
18315 to balance livestock grazing with available forage and other resource needs. This would be  
18316 accomplished at the allotment level.

**Lands Capable and Suitable for Livestock Grazing**

A rangeland capability and suitability analysis has been completed for this Forest Plan Revision effort. Capability was assessed for cattle and sheep grazing separately. Total capable rangeland acres on the Colville National Forest are seen in table 179.

Provisions of the 1982 planning rule require that the capability and suitability for producing forage for grazing animals on NFS lands be determined. Capability refers to the potential of an area of land to produce resources, supply goods and services, and allow resource uses under an assumed set of management practices and at a given level of management intensity. Capability depends upon current resource conditions and site conditions, such as climate, slope, landform, soils, and geology, as well as the application of management practices.

**Table 179. Colville National Forest capable rangelands**

Description	Acreage
Forest Service Administered Lands	1,103,000
Capable for Cattle Grazing	690,311
Capable for Sheep Grazing	881,287

Rangeland capability does not vary by alternative and is, therefore, only determined once through the land management planning process.

This current assessment improves on the prior assessment done during the development of the 1988 Land and Resource Management Plan because it accounts for changes in suitability that have occurred since the original decisions were issued, and because it employs current GIS mapping technologies that were unavailable during previous planning efforts.

Suitability refers to the appropriateness of applying certain resource management practices to a particular area of land, as determined by an analysis of the economic and environmental consequences and the alternative uses forgone. A unit of land may be suitable for a variety of individual or combined management practices.

The criteria for suitability for livestock grazing are the same in the action alternatives. This is very similar to the existing direction under the no-action alternative.

18341 **Table 180. Suitability of livestock grazing on the Colville National Forest**

Management Area	Livestock Grazing Suitable	Livestock Grazing Not Suitable
Wood/Forage	X	
Scenic Timber	X	
Old Growth Dependent Species Habitat/Late Forest Structure	X	
Caribou Habitat		X
Winter Range	X	
Scenic/Winter Range	X	
Focused Restoration	X	
General Restoration	X	
Active Management/Responsible Management Areas	X	
Restoration Zone	X	
Backcountry	X	
Backcountry Motorized	X	
Wilderness – Designated	X	
Salmo-Priest Wilderness		X
Wilderness – Recommended	X	
Research Natural Areas	X	X
Scenic Byway Corridor	X	
Kettle Crest Special Interest Area	X	

18342 **Range Suitability Determination**

18343 **Table 181. Colville National Forest suitable rangelands by alternative**

Alternative	Acres of Suitable Rangeland
No Action	Cattle – 363,845 Sheep – 448,160
Proposed Action	Cattle – 363,217 Sheep – 447,532
Alternative R	Cattle – 363,217 Sheep – 447,532
Alternative P	Cattle – 363,217 Sheep – 447,532
Alternative B	Cattle – 363,217 Sheep – 447,532
Alternative O	Cattle – 363,217 Sheep – 447,532

18344 Even though the amount of land suitable for livestock grazing varies slightly by alternative, there  
18345 would be no anticipated impact on permitted animal unit months (AUMs) in all alternatives based on

their suitability alone. The alternatives would continue to provide some level of forage for domestic livestock and opportunities for ranching lifestyles consistent with the other desired conditions.

### Old Forest Management and Timber Production

Addressing forest health issues through vegetation management and fuels reduction would likely produce positive outcomes in the amount and abundance of understory vegetation which permitted livestock and wildlife use as forage. Griffis et al. found that the abundance of native grass production increased significantly with treatment intensity through thinned timber stands which also had prescribed fire to reduce surface fuels (Griffis et al. 2001). Additional research has revealed that as stand density index decreases, forage production has been shown to increase (Moore and Deiter 1992).

Permitted grazing would benefit from timber production through increased forage abundance. This increased forage production may not result in changes to permitted stocking levels since it would need to be determined at the project level if there would be a net increase in forage production and how other resources may be affected by potential changes.

### Access

Access is assessed for the various alternatives in this section by looking at the combined total of the percentages found for “Backcountry” and Recommended Wilderness Management Areas combined with proposed road density limits. The greater the total number for these two management areas equates to more acres where future access, relative to roads or motorized trails, would be reduced.

**Table 182. Colville National Forest restricted access management areas, percentage by alternative**

Management Area	No Action	Proposed Action	Alt. R	Alt. P	Alt. B	Alt. O
Backcountry	8	8	2	11	0	16
Recommended Wilderness	0	9	19	6	20	1
<b>Total</b>	<b>8</b>	<b>17</b>	<b>21</b>	<b>17</b>	<b>20</b>	<b>17</b>

A constraint to livestock grazing from all motorized access is mainly limited to the grazing permit holder’s ability to access the allotment. Motorized access (including off-highway vehicles) into non-motorized management areas within allotments can be authorized by line officers on a case-by-case basis for allotment administration. Motorized access needs include transportation of fence and/or water development materials, control of invasive plants, maintaining range improvement projects, checking livestock, locating livestock and distributing salt. Permit holders for allotments with less motorized access may take more time and labor to observe stock, check fences and water developments, and distribute salt than allotments with motorized off-highway vehicle access.

To assess the total effects of changes in access, proposed road density limits also need to be considered. Table 183 displays the road density limits for each of the alternatives analyzed in the Forest Plan Revision.



18378 **Table 183. Upper limit of desired road density by alternative**

No Action	Proposed Action	Alt. R	Alt. P	Alt. B	Alt. O
80% of the Forest is suitable for roads. About 4,000 miles of roads on the Forest. Upper limits vary from 0.4 to no limit.	2 miles per square mile in Focused Restoration MAs and 3 miles per square mile in General Restoration MAs.	1 mile per square mile in Focused Restoration MAs and 2 miles per square mile in General Restoration MAs.	1 mile per square mile in Focused Restoration MAs and 2 miles per square mile in General Restoration MAs.	Cap USFS road miles at current level. Applicable forestwide.	Cap USFS road miles at current level. Applicable forestwide.

## 18379 Climate Change

18380 Climate change scenarios predict more, larger uncharacteristic wildfires. Wildfires can burn fences  
18381 and water developments within allotments. Pastures may have to rest from grazing until recovery  
18382 objectives are met following a wildfire. These short-term effects of wildfire are minor compared to  
18383 the long-term effects of increased forage from large wildfires (over 100 acres burned) which can last  
18384 for decades. Over the last 15 years total acres burned by wildfire on the Forest has exceeded  
18385 1,000 acres in three years—1994, 2001, and 2003. The trend in size and number of larger wildfires is  
18386 expected to increase over the life of the plan, resulting in an increase in forage.

18387 “Grazing lands are estimated to contain 10 to 30 percent of the world’s soil organic carbon”  
18388 (Schuman, Janzen and Herrick 2002). While some studies have found limited to large reductions in  
18389 soil carbon and increases in CO<sub>2</sub> flux associated with grazing (Haferkamp and MacNeil 2004)  
18390 (Welker et al. 2004), studies involving modeling and remotely sensed data indicate that proper  
18391 grazing can improve ecosystem production as measured by soil carbon storage (Li, Liu and Tan  
18392 2007) (Steinfeld and Wassenaar 2007) (Reeder et al. 2004) (Schuman, Janzen and Herrick 2002).  
18393 Additional studies similarly conclude that certain levels of grazing may even increase carbon  
18394 sequestration (Hellquist et al. 2007) (Derner, Boutton and Briske 2006) (Derner et al. 2005) (LeCain  
18395 et al. 2001) (Ganjegunte et al. 2005) (Manley et al. 1995) (Reeder et al. 2004) (Schuman, Janzen and  
18396 Herrick 2002). Complementing these findings, several studies indicate that light to moderate levels  
18397 of grazing have no overall effect on total carbon sequestration (Hellquist et al. 2007) (Ingram et al.  
18398 2008) (Derner, Boutton and Briske 2006) (Stavi et al. 2008) (Owensby, Ham and Auen 2006)  
18399 (Shrestha and Stahl 2008) (Ingram et al. 2008). In fact, intensive rotational grazing appears to be a  
18400 viable option for greenhouse gas reduction and carbon sequestration credits (Bosch, Stephenson,  
18401 Groover and Hutchins 2008; Steiguer, Brown and Thorpe 2008; NRCS 2006; Li, Liu and Tan 2007;  
18402 Ingram et al. 2008; Conant and Paustian 2000; Steiguer, Brown and Thorpe 2008; Streater 2009; and  
18403 Sharrow 2008).

18404 It can safely be asserted that there is tremendous variability in carbon storage and its response to  
18405 grazing across different land types (Derner, Boutton and Briske 2006; Henderson, Ellert and Naeth  
18406 2004). The Northern Great Plains appears to have small potential as a carbon sink (Haferkamp and  
18407 MacNeil 2004). Alternately, local research indicates that ungrazed sagebrush steppe sites were CO<sub>2</sub>  
18408 sinks during the period they were measured (Svejcar et al. 2008). Management practices that maintain  
18409 or move plant associations to “good” condition appear to be consistent with maintaining the soil  
18410 organic pool (Henderson, Ellert and Naeth 2004; Brown and Thorpe 2008; Sharrow 2008).

18411 Grazing results in redistribution of carbon on the landscape (Stavi et al. 2008). It has been noted that  
18412 livestock waste management represents a potential long-term soil carbon gain (Fellman et al. 2008).

18413 Free-ranging livestock deposit manure across the landscape, resulting in aerobic decomposition.  
18414 Aerobic decomposition of manure generates considerably less methane than does decomposition  
18415 associated with stockpiling strategies used in more concentrated livestock production strategies  
18416 (Alberta Agriculture and Food Ag-Info Center) (EPA 2005). This “in-effect” land application of  
18417 manure also results in a buildup of soil carbon that decomposes much more slowly than occurs when  
18418 composting (NRCS 2007).

18419 All alternatives would use adaptive management to address climate change. Climate change is  
18420 expected to affect forage conditions on the Forest. The adaptive management used in allotment  
18421 management planning, which is outside of this planning effort related to the Forest Plan Revision,  
18422 allows for adjustments in the number of livestock and season of pasture use so that livestock use  
18423 matches forage production for every grazing season.

#### 18424 **Wilderness and Recommended Wilderness**

18425 Wilderness designation by congressional action does not affect allotment boundaries or suitability for  
18426 grazing. The existing wilderness area, Salmo-Priest, does not have any range allotments within its  
18427 boundary, therefore, permitted livestock grazing would not occur in the future. There should be no  
18428 effects to livestock grazing from designated wilderness management; though new requirements  
18429 concerning the types of materials that could be utilized for range improvement projects may be a  
18430 future constraint should any recommended wilderness be designated as wilderness in the future.

18431 The amount of recommended wilderness existing within grazing allotments has the potential to  
18432 constrain a grazing permittee’s motorized access into the various potential wilderness areas where  
18433 motorized trails exist.

18434 Should recommended wilderness become designated wilderness, the potential for livestock grazing  
18435 would likely cease on the portions of vacant allotments within wilderness area boundaries. Grazing  
18436 of allotments with active permits could continue with the designation of wilderness.

#### 18437 **No-action Alternative**

18438 Access for allotment management by motorized trail or roads is likely to remain unchanged from that  
18439 experienced under the 1988 forest plan.

18440 Any new sheep grazing permits would be managed to reduce risks of disease transmission to bighorn  
18441 sheep herds. Effects from domestic sheep grazing on bighorn sheep would be analyzed at the  
18442 allotment level and a “Risk of Contact” analysis would be completed.

18443 Impacts to permittee’s time, labor and costs would continue to be affected by riparian area direction.

#### 18444 **Old Forest Management and Timber Production**

18445 Timber harvest can have a favorable effect on forage production by creating areas of forage through  
18446 removing overstory. The quality of the forage created depends on the vegetation type and individual  
18447 site characteristics. The expected timber harvest acreage would continue, so there is no increase in  
18448 forage from increased acres of timber harvest.

18449 Prescribed fire can also create areas of forage depending on the vegetation types burned. Under this  
18450 alternative, the amount of prescribed fire is unlikely to markedly increase in the short term. Forage  
18451 created by prescribed fire would not increase.

18452 **Motorized Recreation Trails**

18453 Total miles of motorized trails on the forest are expected to remain the same in the short term.

18454 Motorized trail access for permittees would remain the same in the short term.

18455 **Access**

18456 Today, there are about 4,000 miles of National Forest System roads, and about 80 percent of the  
18457 forest is suitable for road construction. The current forest plan includes standards and guidelines that  
18458 limit road densities to between 0.4 to 2 miles per square mile in deer and elk winter range; grizzly  
18459 bear habitat areas; and lynx habitat. Outside of these habitats, the forest plan does not set an upper  
18460 limit on road density. Today, the average National Forest System road densities in 12th field  
18461 watersheds range from a low of 0.33 to a high of 4.45 miles per square mile on National Forest  
18462 System lands. The total miles of National Forest System roads are expected to remain the same or  
18463 decrease slightly over the next 10 years.

18464 Current forest plan constraints on access may result in increased time, labor, and capital investments  
18465 for the permit holder. Permit holders of allotments with less road access may take more time and  
18466 labor to observe stock, check fences and water developments, and distribute salt than allotments with  
18467 higher road densities.

18468 Low maintenance native surface roads serve as routes for easily moving livestock on, off of and  
18469 around pastures, and some routes may be lost as roads are decommissioned. Cut and fill slopes along  
18470 with the native surface of low maintenance roads is a location providing foraging areas for livestock,  
18471 therefore lower road densities may have a small effect on availability of forage.

18472 A positive effect of lower road density and miles is that cattle and range improvements would  
18473 generally receive less disturbance and vandalism. Public use of roads in allotments with intensive  
18474 grazing systems disturbs livestock, increases the risk of gates being left open, and tends to disrupt the  
18475 proper use of forage by moving livestock along roadways.

18476 Road densities and total miles of road on the forest are expected to remain the same in the short term  
18477 and likely to decrease in the long term due to budget trends. Motorized vehicle access for permittees  
18478 would remain the same in the short term and may decline slightly in the long term.

18479 **Recommended Wilderness Areas**

18480 Currently there are no recommended wilderness areas on the Forest.

18481 **Wildlife**

18482 ***Sheep***

18483 The Forest currently supports two bighorn sheep herds and has no active sheep allotments. It is  
18484 unknown if or when a sheep allotment may become active. Risk of contact concerning disease  
18485 transmission from domestic sheep to bighorn sheep exists which can be fatal for bighorn sheep. The  
18486 current forest plan is silent on disease transmission risks. It is assumed that any permit for sheep  
18487 grazing would take steps to reduce or eliminate the risk of contact. The Forest Service would  
18488 continue to address risks through allotment management planning, which may reduce future  
18489 permitting of domestic sheep in allotments proximate to bighorn sheep herds. A risk of contact  
18490 analysis would be conducted at the allotment level before domestic sheep are considered for  
18491 authorized back onto the forest.

*Wildlife management*

The eastern portion of the Forest is within the Selkirk and Cabinet-Yaak Grizzly Bear Recovery Zone that extends east into Idaho and Montana. The current forest plan is silent on grizzly bear depredation, other than to state that grizzly bear habitat is managed in accordance with the Interagency Bear Guidelines, Colville National Forest Guidelines for Management in Occupied Grizzly Bear Habitat (Appendix H, FEIS), national policy, and the Grizzly Bear Recovery Plan. Following direction to avoid depredation may result in changes in timing or location of livestock movement within an allotment. If this occurs, the permittee may need to spend more time and labor to implement these changes.

*Riparian and Aquatic Resource Management*

Forest plan direction that protects riparian areas have an effect on grazing operations through the need for the permit holder to spend time, labor, and make capital investments to limit potential livestock grazing effects to riparian areas. Currently there are riparian management areas which are called riparian habitat conservation areas (RHCAs) established by the INFISH and Eastside Screens amendments, and management direction from the INFISH amendment that address livestock grazing in riparian management areas. This direction would continue and permittee's time, labor and capital investments would continue at the same levels, assuming allotment management is in compliance with the allotment management plan.

**Proposed Action**

**Old Forest Management:** The proposed action is likely to increase forage for livestock and wildlife by creating large openings. Due to climate change, the trend in size and number of larger wildfires is expected to increase over the life of the plan, also resulting in an increase in forage.

**Access:** The total effect to access comes from looking at percentage of Forest acres in "Backcountry" and "Recommended Wilderness" combined and proposed road density limits. Compared to the no-action alternative, access opportunities could be slightly reduced through an increase in the "Backcountry" and "Recommended Wilderness" acres, but a reduction in access is not likely to be related to road density limits. Limited access could equate to additional time and labor costs for permittees.

**Riparian and Aquatic Resources:** Riparian area widths would increase compared to the no-action alternative and that experienced under the 1988 forest plan. The "guidelines" directing management for grazing practices in the Aquatic Riparian Conservation Strategy (ARCS) are unlikely to have a substantial effect on allotment management. The ARCS "standard" requiring new livestock handling, management or watering facilities to be located outside of riparian management areas could act to constrain future options while seeking to improve riparian areas and water quality.

**Old Forest Management and Timber Production**

Timber harvest can have a favorable effect on forage production by creating transitory rangelands that exist for a period following treatment. The expected timber harvest remains the same across all alternatives due to budget trends, so there is likely to be no increase in forage from increased acres of timber harvest. However, the proposed action and alternative P include desired conditions for creating gaps and patches of vegetation ranging up to 40 acres. More and larger gaps in vegetation would create more foraging areas, so the proposed action and alternative P are likely to increase forage for livestock and wildlife. Timber harvest and follow up fuels treatments result in increased forage standing crop due to the relationship between forage production and overstory being curvilinear with forage production being negatively related to density of overstory vegetation

18536 (Masters et al. 1993). More forage would reduce forage competition with big game and may improve  
18537 livestock distribution over the allotments.

18538 Prescribed fire can also create desirable foraging areas depending on the vegetation types burned.  
18539 Due to budget trends, the amount of prescribed fire is likely to remain the same across all  
18540 alternatives and is unlikely to markedly increase in the short term.

18541 The proposed action and alternative P are expected to result in forests that are more resilient and  
18542 have fewer large and uncharacteristic wildfires in the long term. The trend in size and number of  
18543 larger wildfires is expected to increase over the life of the plan as a result of anticipated climate  
18544 change, resulting in an increase in forage in the short term, while in the long term, wildfire created  
18545 forage would decrease.

#### 18546 **Motorized Recreation Trails**

18547 The combined total for management areas that would restrict motorized access would total  
18548 17.2 percent of the Forest under the proposed action. This means that there would be 9.4 percent  
18549 fewer acres under the proposed action where motorized access would be allowed compared to the  
18550 1988 forest plan. Limited access could equate to an increase in time and labor costs for permittees.

18551 The analysis assumes that permit holders may not have motorized off-highway vehicle access to  
18552 parts of their allotment within a backcountry non-motorized management area.

#### 18553 **Access**

18554 The proposed action's recommended road density limits of 2 miles per square mile for Focused  
18555 Restoration Management Areas and 3 miles per square mile for General Restoration Management  
18556 Areas are unlikely to result in a noticeable change in grazing permittee's ability to access their  
18557 allotments. Some watersheds would see reductions in the amount of roads present, but this is  
18558 unlikely to have an impact on allotment management because of a lack in infrastructure, grazable  
18559 areas and/or allotments within the affected watersheds.

#### 18560 **Recommended Wilderness Areas**

18561 Concerning recommended wilderness, the proposed action, alternative P and alternative O would  
18562 allow existing motorized uses to continue until Congress makes a decision on the Forest Service's  
18563 recommendation. None of the recommended wilderness areas currently have National Forest System  
18564 roads, or motorized trails. Alternatives with a high percentage of allotment acres in recommended  
18565 wilderness would have the highest effect to permit holders' use of mechanized equipment in these  
18566 areas. This would result in the permit holder having to spend more time and labor to manage the  
18567 allotment.

#### 18568 **Wildlife**

18569 There is nothing specifically in the proposed action for wildlife that would affect livestock or  
18570 allotment management.

#### 18571 **Riparian and Aquatic Resource Management**

18572 The guidelines directing management for grazing practices in the Aquatic Riparian Conservation  
18573 Strategy (ARCS) are unlikely to have a substantial effect on allotment management. The ARCS  
18574 standard requiring new livestock handling, management or watering facilities to be located outside of  
18575 riparian management areas could act to limit future management options, such as water development  
18576 and re-development, while seeking to improve riparian areas and water quality. Additional standards

18577 or changing a guideline to a standard is an added constraint that may challenge grazing permittees to  
18578 comply with their allotment management plan(s).

18579 Riparian management area widths vary by alternative. Riparian area widths for the proposed action  
18580 would increase compared to the no-action alternative and that experienced under the 1988 forest  
18581 plan. This alternative increases riparian management area widths for lakes and natural ponds from  
18582 150 feet to 300 feet, which could potentially further constrain a permittee's ability to fully utilize  
18583 management options within these areas.

## 18584 **Alternative R**

18585 **Access:** The total effect to access comes from looking at the percentage of Forest acres in  
18586 "Backcountry" and "Recommended Wilderness" combined and proposed road density limits.  
18587 Compared to the no-action alternative, access opportunities would be reduced through an increase in  
18588 the "Backcountry" and "Recommended Wilderness" acres and the identified road densities for  
18589 Focused and General Restoration Management Areas. Alternative R is the most restrictive of the  
18590 alternatives in regards to restricting access through the amount of land contained within Focused  
18591 Restoration, Backcountry and Recommended Wilderness Management Areas. Limited access would  
18592 equate to an increase in time and labor costs for permittees.

18593 **Riparian and Aquatic Resources:** Riparian area widths would increase compared to the no-action  
18594 alternative, and that experienced under the 1988 forest plan. The guidelines" and "standards directing  
18595 management for grazing practices in the Aquatic Riparian Conservation Strategy Modified (ARCS-  
18596 mod) is likely to have an effect on allotment management and could act to limit future options and  
18597 reduce the length of permitted grazing seasons. Grazing permittees could realize additional  
18598 constraints based on minimum stubble height requirements of ARCS-mod. The ARCS-mod  
18599 "standards" could act to limit future options while seeking to improve riparian areas and water  
18600 quality.

## 18601 **Old Forest Management and Timber Production**

18602 Timber harvest can have a favorable effect on forage production by creating transitory rangelands  
18603 that exist for a period of time following treatment. The expected timber harvest remains the same  
18604 across all alternatives due to budget trends, so there is no increase in forage from increased acres of  
18605 timber harvest.

18606 Prescribed fire can also create desirable foraging areas depending on the vegetation types burned.  
18607 Due to budget trends, the amount of prescribed fire is likely to remain the same across all  
18608 alternatives and is unlikely to markedly increase in the short term.

## 18609 **Motorized Recreation Trails**

18610 The combined total for management areas that would restrict motorized access would total  
18611 21 percent of the Forest under alternative R. This means that there would be 13.2 percent fewer acres  
18612 under alternative R where motorized access would be allowed compared to the 1988 forest plan.  
18613 Limited access would increase time and labor costs for permittees.

18614 The analysis assumes that permit holders may not have motorized off-highway vehicle access to  
18615 parts of their allotment within a backcountry non-motorized management area.

## Access

Alternative R's recommended road density limits of 1 mile per square mile for Focused Restoration Management Areas and 2 miles per square mile for General Restoration Management Areas, combined with this alternative having the largest percentage of Forest acres being in a Focused Restoration Management Area are likely to result in a noticeable change in a grazing permittee's ability to access their allotments. Many watersheds would likely see reductions in the amount of roads present, and this reduction in access could result in grazing permit holders having to spend more time and labor to manage the allotment.

Low maintenance native surface roads serve as routes for easily moving livestock on, off of and around pastures, and some routes may be lost as roads are decommissioned. Cut and fill slopes and the native surface of low maintenance roads is another source of forage, so lower road densities may have an effect on availability of forage for livestock grazing.

A positive effect of lower road density and miles is that cattle and range improvements would generally receive less disturbance and vandalism. Public use of roads in allotments with intensive grazing systems disturbs livestock, increases the risk of gates being left open, and tends to disrupt the proper utilization of forage by moving livestock along roadways. Alternative R would have the most allotment acreage in the management area "Focused Restoration" with the lowest road density.

## Recommended Wilderness Areas

In the short term, the effect of recommended wilderness to livestock grazing is to limit motorized trail access for the permit holder in the R and B alternatives, where a standard doesn't allow motorized uses within recommended wilderness.

Alternatives R and B would recommend the largest amount of recommended wilderness to Congress for potential designation and these alternatives would have the most substantial effect on range management through limiting access, restricting tools, and increasing the time required to complete management activities. None of the recommended wilderness areas currently have National Forest System roads, but the Owl Mountain, Jackknife, Twin Sisters and South Huckleberry PWAs all have motorized trails that are used for livestock and allotment management. Since all of these PWAs become recommended wilderness in alternative R, a permittee's ability to complete allotment and livestock management activities would be further constrained. In the long term, if Congress decides to designate the recommended wilderness areas as wilderness, motorized and mechanized activities may not be authorized. This would result in the permit holder having to spend more time and labor to manage the allotment.

## Wildlife

There is nothing specifically in alternative R for wildlife that would affect livestock or allotment management.

## Riparian and Aquatic Resource Management

Forest plan direction contained within alternative R to protect riparian areas would constrain grazing and would likely require the permit holder to spend additional time, labor, and make capital investments to limit potential livestock grazing effects on riparian areas. Alternatives R and P have the most constrained plan components for riparian areas that would affect permitted livestock grazing. For example, alternatives R and P have an added standard to restrict livestock access to fish redds of federally listed threatened and endangered fish. Additional standards or changing a

18658 guideline to a standard may put the permittee at a higher risk of being in non-compliance with the  
18659 allotment management plan.

18660 Riparian Management Area widths for alternative R would increase compared to current direction in  
18661 the 1988 Plan and INFISH. Alternatives with wider riparian area widths are the proposed action, R,  
18662 P, and O. These alternatives increase riparian area widths, and therefore, protections for lakes and  
18663 natural ponds from 150 feet to 300 feet.

18664 Alternatives R and P have additional standards, and standards that in other alternatives are  
18665 guidelines, addressing livestock grazing and rangeland infrastructure in riparian areas. More  
18666 constraining plan standards, and increased riparian area widths may increase time, labor and capital  
18667 expenditures by the permittee to manage allotments.

18668 Standard 21 of ARCS-mod, which pertains to livestock handling, management and water facilities,  
18669 could limit the implementation of future management options to improve riparian areas and water  
18670 quality. Specifically, given the constraining RMA widths and the terrain and types of stream channels  
18671 experienced on the Colville, it would be extremely difficult to re-locate new water troughs outside  
18672 the RMA. In fact, of the many hundred water developments currently on the Colville National  
18673 Forest, none are located outside of the RMA and they have been shown to provide off-site watering  
18674 opportunities for livestock that in turn result in improved water quality and riparian conditions.  
18675 Requiring water troughs to be placed at least 300 feet from fish-bearing streams would likely require  
18676 at least 2,000 feet of pipe to convey water to the trough and return the overflow back to the stream.  
18677 These long pipelines, which are low-gradient, low-pressure, gravity-fed systems, have been found to  
18678 be extremely temperamental and inconsistent in delivering water to their intended location. When  
18679 livestock troughs do not consistently have water in them, livestock would revert to drinking from  
18680 streams, and therefore, impede riparian recovery and could result in exceeding identified guidelines  
18681 for forage and browse utilization and bank alteration.

18682 Guideline 22 of ARCS-mod pertaining to green-line vegetation areas is more restrictive in regard to  
18683 minimum stubble height amounts and would potentially double the amount of required residual  
18684 stubble height left in riparian areas compared to the existing condition. It is recognized that riparian  
18685 and stream conditions are improving on the Colville National Forest with current management which  
18686 requires a minimum of 4 inches of herbaceous stubble in riparian zones. This ARCS-mod guideline,  
18687 which would require a minimum of 6 to 8 inches of herbaceous stubble in riparian zones, could  
18688 constrain permitted grazing and could result in shortened grazing seasons for permittees. Science  
18689 suggests that 4 inches (10 cm) of residual stubble height is recommended as a starting point for  
18690 improved riparian management as this amount is near optimal when considering riparian issues such  
18691 as maintaining forage vigor, entrapping and stabilizing sediment under inundated flow, trampling of  
18692 streambanks and diversion of willow browsing (Clary and Leininger 2000). In some situations,  
18693 2.75 inches (7cm) may provide for adequate riparian ecosystem function while others may require  
18694 6 to 8 inches (15 to 20 cm) (Clary and Leininger 2000). Having conservative/restrictive guidelines  
18695 identified in ARCS-mod, such as a minimum stubble height requirement of 6 to 8 inches, is likely to  
18696 ensure riparian health, but presents additional constraints for livestock operators who could  
18697 experience shorter grazing seasons in order to comply with an 6 to 8 inch minimum stubble height  
18698 requirement. Based upon vegetation monitoring in upland and riparian areas and a knowledge of the  
18699 permitted grazing occurring on the Colville National Forest, it is estimated that maintaining at least  
18700 6 to 8 inches of residual stubble height could equate to a 10 to 50 percent reduction in AUMs as a  
18701 result of shortened grazing seasons that would be required to attain the specified minimum stubble  
18702 height values in the ARCS-mod guideline 22. This estimation is at the forestwide scale and the



18703 reality experienced on a given allotment could vary depending on the condition of and setting along  
18704 streams and riparian areas.

18705 Standard 23 of ARCS-mod pertaining to allotment management planning and livestock handling  
18706 facilities could result in difficulty gathering and removing livestock from the allotment at the end of  
18707 the permitted use season. Livestock handling facilities are strategically placed within allotments in  
18708 order to maximize their effectiveness and function. These facilities need to be strategically placed in  
18709 order to be effective and are usually near water, but away from the source and associated riparian  
18710 vegetation on a relatively flat landscape. Should these facilities be required to be moved farther away  
18711 from water because of the arbitrary 300-foot distance from the stream, it could compromise a  
18712 permittee's ability to successfully gather livestock from the allotment and potentially result in  
18713 extended livestock use in the riparian areas, thereby reducing the recovery period for vegetation and  
18714 increasing impacts to streams and streambanks.

18715 Standard 24 of ARCS-mod pertaining to fish redds would require that livestock would not be able to  
18716 access federally listed threatened or endangered fish redds. Depending on the method to accomplish  
18717 this, allotment management could be complicated, which could result in increased time, effort, and  
18718 cost to grazing permittees. Riparian enclosure fencing is one way to accomplish this standard and  
18719 this method could make pasture moves more difficult if trailing routes are compromised as a result of  
18720 additional fencing.

18721 Implementation of ARCS-mod guidelines and standards do not account for the variability that occurs  
18722 over the 1.1 million acres of the Colville National Forest. Therefore, these constraints applied across  
18723 the entire Forest could dampen economic contributions to local economies if standards or guidelines  
18724 are at risk of being exceeded and livestock have to be removed sooner than authorized.

## 18725 **Alternative P**

18726 **Old Forest Management:** Alternative P is likely to increase forage for livestock and wildlife by  
18727 creating large openings. Due to climate change, the trend in size and number of larger wildfires is  
18728 expected to increase over the life of the plan, also resulting in an increase in forage.

18729 **Access:** The total effect to access comes from looking at percentage of Forest acres in  
18730 "Backcountry" and "Recommended Wilderness" combined and proposed road density limits.  
18731 Compared to the no-action alternative, access opportunities would be reduced through an increase in  
18732 the "Backcountry" and "Recommended Wilderness" acres and the identified road densities for  
18733 Focused and General Restoration Management Areas. Limited access could equate to an increase in  
18734 time and labor costs for permittees.

18735 **Riparian and Aquatic Resources:** Riparian area widths would increase compared to the no-action  
18736 alternative and that experienced under the 1988 forest plan. The guidelines" and "standards directing  
18737 management for grazing practices in the ARCS-mod is likely to have an effect on allotment  
18738 management and could act to limit future options and reduce the length of permitted grazing seasons.  
18739 Grazing permittees could realize additional constraints based on minimum stubble height  
18740 requirements of ARCS-mod. These guidelines and standards would also constrain grazing beyond  
18741 what has been identified as optimal to protect stream and riparian values in most areas (Clary and  
18742 Leininger 2000).

## 18743 **Old Forest Management and Timber Production**

18744 Timber harvest can have a favorable effect on forage production by creating transitory rangelands  
18745 that exist for a period of time following treatment. The expected timber harvest remains the same

across all alternatives due to budget trends, so there is no increase in forage from increased acres of timber harvest. However, the proposed action and alternative P include desired conditions for creating gaps and patches of vegetation ranging up to 40 acres. More and larger gaps in vegetation would create more foraging areas, so the proposed action and alternative P are likely to increase forage for livestock and wildlife. Timber harvest and follow up fuels treatments result in increased forage standing crop due to the relationship between forage production and overstory being curvilinear with forage production being negatively related to density of overstory vegetation (Masters et al. 1993). Additional forage would reduce forage competition with big game and may improve livestock distribution over the allotments.

Prescribed fire can also create desirable foraging areas depending on the vegetation types burned. Due to budget trends, the amount of prescribed fire is likely to remain the same across all alternatives and is unlikely to markedly increase in the short term.

The proposed action and alternative P are expected to result in forests that are more resilient and have fewer large and uncharacteristic wildfires in the long term. The trend in size and number of larger wildfires is expected to increase over the life of the plan due to anticipated climate change, resulting in an increase in forage in the short term, while in the long term, wildfire-created forage would decrease. However, the proposed action and alternative P would continue to provide increased forage because of the desired condition for large size gaps and patches.

#### Motorized Recreation Trails

The combined total for Management Areas that would restrict motorized access would total 17 percent of the Forest under the alternative P. This means that there would be 9.2 percent fewer acres under alternative P where motorized access would be allowed compared to the 1988 forest plan. Limited access could equate to an increase in time and labor costs for permittees.

The analysis assumes that permit holders may not have motorized off-highway vehicle access to parts of their allotment within a backcountry non-motorized management area.

#### Access

Alternative P's recommended road density limits of 1 mile per square mile for Focused Restoration Management Areas and 2 miles per square mile for General Restoration Management Areas is likely to result in a noticeable change in a grazing permittee's ability to access their allotments. Many watersheds would likely see reductions in the amount of roads present, and this reduction in access would result in grazing permit holders having to spend more time and labor to manage the allotment.

Low maintenance native surface roads serve as routes for easily moving livestock on, off of and around pastures, and some routes may be lost as roads are decommissioned. Cut and fill slopes and the native surface of low maintenance roads is another source of forage, so lower road densities may have an effect on availability of forage for livestock grazing.

A positive effect of lower road density and miles is that cattle and range improvements would generally receive less disturbance and vandalism. Public use of roads in allotments with intensive grazing systems disturbs livestock, increases the risk of gates being left open, and tends to disrupt the proper utilization of forage by moving livestock along roadways.

#### Recommended Wilderness Areas

Concerning recommended wilderness, the proposed action, alternative P, and alternative O would allow existing motorized uses to continue until Congress makes a decision on the Forest Service's

18788 recommendation. None of the recommended wilderness areas currently have National Forest System  
18789 roads, or motorized trails. Alternatives with a high percentage of allotment acres in recommended  
18790 wilderness would have the highest effect to permit holder's use of mechanized equipment in these  
18791 areas. This would result in the permit holder having to spend more time and labor to manage the  
18792 allotment.

#### 18793 **Wildlife**

18794 There is nothing specifically in alternative P for wildlife that would affect livestock or allotment  
18795 management.

#### 18796 **Riparian and Aquatic Resource Management**

18797 Forest plan direction contained within alternative P to protect riparian areas would constrain grazing  
18798 and would likely require the permit holder to spend additional time, labor, and make capital  
18799 investments to limit potential livestock grazing effects on riparian areas. Alternatives R and P have  
18800 the most constrained plan components for riparian areas that would affect permitted livestock  
18801 grazing. For example, alternatives R and P have an added standard to restrict livestock access to fish  
18802 redds of federally listed threatened and endangered fish. Additional standards or changing a  
18803 guideline to a standard may put the permittee at a higher risk of being in non-compliance with the  
18804 allotment management plan.

18805 Riparian Management Area widths for alternative P would increase compared to current direction in  
18806 the 1988 Plan and INFISH. Alternatives with wider riparian area widths are the proposed action, R,  
18807 P, and O. These alternatives increase riparian area widths, and therefore protections, for lakes and  
18808 natural ponds from 150 feet to 300 feet.

18809 Alternatives R, P, and O have additional standards, and standards that in other alternatives are  
18810 guidelines, addressing livestock grazing and rangeland infrastructure in riparian areas. More  
18811 constraining plan standards, and increased riparian area widths may increase time, labor and capital  
18812 expenditures by the permittee to manage allotments.

18813 Standard 21 of ARCS-mod, which pertains to livestock handling, management and water facilities  
18814 could limit the implementation of future management options to improve riparian areas and water  
18815 quality. , Specifically, given the constraining RMA widths and the terrain and types of stream  
18816 channels experienced on the Colville, it would be extremely difficult to re-locate new water troughs  
18817 outside the RMA. In fact, of the many hundred water developments currently in existence on the  
18818 Colville National Forest, none are located outside of the RMA and they have been shown to provide  
18819 off-site watering opportunities for livestock that in turn result in improved water quality and riparian  
18820 conditions. Requiring water troughs to be placed at least 300 feet from fish-bearing streams would  
18821 likely require at least 2,000 feet of pipe to convey water to the trough and return the overflow back to  
18822 the stream. These long pipelines, which are low-gradient, low-pressure, gravity-fed systems, have  
18823 been found to be extremely temperamental and inconsistent in delivering water to its intended  
18824 location. When livestock troughs do not consistently have water in them, livestock would revert to  
18825 drinking from streams, and therefore, impede riparian recovery and could result in exceeding  
18826 identified guidelines for forage and browse utilization and bank alteration.

18827 Guideline 22 of ARCS-mod pertaining to green-line vegetation areas is more restrictive in regard to  
18828 minimum stubble height amounts and would potentially double the amount of required residual  
18829 stubble height left in riparian areas compared to the existing condition. It is recognized that riparian  
18830 and stream conditions are improving on the Colville National Forest with current management,  
18831 which requires a minimum of 4 inches of herbaceous stubble in riparian zones. This ARCS-mod

guideline, which would require a minimum of 6 to 8 inches of herbaceous stubble in riparian zones, could constrain permitted grazing and could result in shortened grazing seasons for permittees. Science suggests that 4 inches (10 cm) of residual stubble height is recommended as a starting point for improved riparian management as this amount is near optimal when considering riparian issues such as maintaining forage vigor, entrapping and stabilizing sediment under inundated flow, trampling of streambanks and diversion of willow browsing (Clary and Leininger 2000). In some situations, 2.75 inches (7 cm) may provide for adequate riparian ecosystem function while others may require 6 to 8 inches (15 to 20 cm) (Clary and Leininger 2000). Having conservative/restrictive guidelines identified in ARCS-mod, such as a minimum stubble height requirement of 6 to 8 inches, is likely to ensure riparian health, but presents additional constraints for livestock operators who could experience shorter grazing seasons in order to comply with an 6- to 8-inch minimum stubble height requirement. Based upon vegetation monitoring in upland and riparian areas and a knowledge of the permitted grazing occurring on the Colville National Forest, it is estimated that maintaining at least 6 to 8 inches of residual stubble height could equate to a 10 to 50 percent reduction in AUMs as a result of shortened grazing seasons that would be required to attain the specified minimum stubble height values in the ARCS-mod guideline 22. This estimation is at the forestwide scale and the reality experienced on a given allotment could vary depending on the condition of and setting along streams and riparian areas.

Standard 23 of ARCS-mod pertaining to allotment management planning and livestock handling facilities could result in difficulty gathering and removing livestock from the allotment at the end of the permitted use season. Livestock handling facilities are strategically placed within allotments in order to maximize their effectiveness and function. These facilities need to be strategically placed in order to be effective and are usually near water, but away from the source and associated riparian vegetation on a relatively flat landscape. Should these facilities be required to be moved further away from water because of the arbitrary 300-foot distance from the stream, it could compromise a permittee's ability to successfully gather livestock off of the allotment and could potentially result in extended livestock use in the riparian areas thereby reducing the recovery period for vegetation and increasing impacts to streams and streambanks.

Standard 24 of ARCS-mod pertaining to fish redds would require that livestock would not be able to access federally listed threatened or endangered fish redds. Depending on the method to accomplish this, allotment management could be complicated which could result in increased time, effort and cost to grazing permittees. Riparian exclosure fencing is one way to accomplish this standard and this method could make pasture moves more difficult if trailing routes are compromised as a result of additional fencing.

Implementation of ARCS-mod guidelines and standards do not account for the variability that occurs over the 1.1 million acres of the Colville National Forest. Therefore, these constraints applied across the entire Forest could dampen economic contributions to local economies if standards or guidelines are at risk of being exceeded and livestock have to be removed sooner than authorized.

#### *Kettle Crest Special Interest Area*

Alternatives P and O propose the creation of a special interest area in the Kettle Crest range to account for the special characteristics seen in and unique values recognized for this area. The proposed Kettle Crest SIA is suitable for livestock grazing and no effects are anticipated from its existence.

## **Alternative B**

**Access:** The total effect to motorized trail access comes from looking at percentage of allotment acres in “Backcountry” and “Recommended Wilderness” combined. The highest percentage of allotment acres in Recommended Wilderness and Backcountry are in R and B, which would limit motorized trail access and increase time and labor for permittees the most among the alternatives.

**Riparian and Aquatic Resources:** Of the action alternatives, riparian area widths are the smallest in the B alternative, which would have the least effect on the permittee’s management of the allotment. Alternative B recommends riparian and aquatic resources be guided by requirements of INFISH, which is the same as is followed in the 1988 Plan.

## **Old Forest Management and Timber Production**

Timber harvest can have a favorable effect on forage production by creating forage areas through removing overstory. The expected timber harvest remains the same across all alternatives due to budget trends, so there is no increase in forage from increased acres of timber harvest. Alternatives B and O limit gap size to three acres. More and larger gaps in vegetation would create more forage areas, so alternative B is not likely to increase forage for livestock and wildlife very much.

Prescribed fire can also create desirable foraging areas depending on the vegetation types burned. Due to budget trends the amount of prescribed fire would remain the same across all alternatives and is unlikely to markedly increase in the short term.

## **Motorized Recreation Trails**

The combined total for Management Areas that would restrict motorized access would total 20.1 percent of the Forest under alternative B. This means that there would be 12.3 percent fewer acres under alternative B where motorized access would be allowed compared to the 1988 forest plan. Limited access could equate to an increase in time and labor costs for permittees.

The analysis assumes that permit holders may not have motorized off-highway vehicle access to parts of their allotment within a backcountry non-motorized management area.

## **Access**

Today, there are about 4,000 miles of National Forest System roads, and about 80 percent of the forest is suitable for road construction. Alternative B would cap the number of road miles at the current level so that should any new road be proposed, an equal amount of road would have to be decommissioned.

Road densities and total miles of road on the forest are expected to remain the same in the short term and likely to decrease in the long term due to budget trends. Motorized vehicle access for permittees would remain the same in the short term and may decline slightly in the long term.

Low maintenance native surface roads serve as routes for easily moving livestock on, off of and around pastures, and some routes may be lost as roads are decommissioned. Cut and fill slopes along with the native surface of low maintenance roads is a location providing foraging areas for livestock, therefore lower road densities may have a small effect on availability of forage for livestock grazing.

## Recommended Wilderness Areas

In the short term, the effects of recommended wilderness to livestock grazing is to limit motorized trail access for the permit holder in the R and B alternatives, where a standard allows no motorized uses within recommended wilderness.

Alternatives R and B would recommend the largest amount of recommended wilderness to Congress for potential designation and these alternatives would have the most substantial effect on range management through limiting access, restricting tools and increasing the time required to complete management activities. None of the recommended wilderness areas currently have National Forest System roads, but the Owl Mountain, Jackknife, Twin Sisters and South Huckleberry PWAs all have motorized trails that are used for livestock and allotment management. Since all of these PWAs become recommended wilderness in alternative B, a permittee's ability to complete allotment and livestock management activities would be constrained. In the long term, if Congress decides to designate the recommended wilderness areas as wilderness, motorized and mechanized activities may not be authorized. This would result in the permit holder having to spend more time and labor to manage the allotment.

## Wildlife

There is nothing specifically in alternative B for wildlife that would affect livestock or allotment management.

## Riparian and Aquatic Resource Management

Existing Forest Plan direction concerning riparian and aquatic resource management would be continued in alternative B. Forest plan direction that protects riparian areas have an effect on grazing operations through the need for the permit holder to spend time, labor, and make capital investments to limit livestock grazing effects to riparian areas. Currently there are riparian management areas which are called riparian habitat conservation areas (RHCAs) established by the INFISH and Eastside Screens amendments, and management direction from the INFISH amendment that address livestock grazing in riparian management areas. This direction would continue and permittee's time, labor and capital investments would continue at the same levels, assuming allotment management is in compliance with the allotment management plan.

## Alternative O

**Access:** The total effect to access comes from looking at percentage of Forest acres in "Backcountry" and "Recommended Wilderness" combined and proposed road density limits. Compared to the no-action alternative, access opportunities could be slightly reduced through an increase in the "Backcountry" acres, but a reduction in access is not likely to be related to road density limits. Limited access could equate to an increase in time and labor costs for permittees.

**Riparian and Aquatic Resources:** Riparian area widths would increase compared to the no-action alternative and that experienced under the 1988 forest plan. The "guidelines" directing management for grazing practices in the Aquatic Riparian Conservation Strategy (ARCS) are unlikely to have a substantial effect on allotment management. The ARCS "standard" requiring new livestock handling, management or watering facilities to be located outside of riparian management areas (RMAs) could further constrain future management options in developing livestock management activities that may improve riparian vegetation and water quality.

18953 **Old Forest Management and Timber Production**

18954 Timber harvest can have a favorable effect on forage production by creating forage areas through  
18955 removing overstory. The expected timber harvest remains the same across all alternatives due to  
18956 budget trends, so there is no increase in forage from increased acres of timber harvest. Alternatives B  
18957 and O limit gap size to 3 acres. More and larger gaps in vegetation would create more forage areas,  
18958 so alternative O is not likely to increase forage for livestock and wildlife very much.

18959 Prescribed fire can also create desirable foraging areas depending on the vegetation types burned.  
18960 Due to budget trends the amount of prescribed fire would remain the same across all alternatives and  
18961 is unlikely to markedly increase in the short term.

18962 **Motorized Recreation Trails**

18963 The combined total for management areas that would restrict motorized access would total  
18964 17.5 percent of the Forest under alternative O. This means that there would be 9.7 percent fewer  
18965 acres under alternative O where motorized access would be allowed compared to the 1988 forest  
18966 plan. Limited access could equate to an increase in time and labor costs for permittees.

18967 The analysis assumes that permit holders may not have motorized off-highway vehicle access to  
18968 parts of their allotment within a backcountry non-motorized management area.

18969 **Access**

18970 Today, there are about 4,000 miles of National Forest System roads, and about 80 percent of the  
18971 forest is suitable for road construction. Alternative O would cap the number of road miles at the  
18972 current level so that should any new road be proposed, an equal amount of road would have to be  
18973 decommissioned.

18974 Road densities and total miles of road on the forest are expected to remain the same in the short term  
18975 and likely to decrease in the long term due to budget trends. Motorized vehicle access for permittees  
18976 would remain the same in the short term and may decline slightly in the long term.

18977 Low maintenance native surface roads serve as routes for easily moving livestock on, off of and  
18978 around pastures, and some routes may be lost as roads are decommissioned. Cut and fill slopes along  
18979 with the native surface of low maintenance roads is a location providing foraging areas for livestock,  
18980 therefore lower road densities may have a small effect on availability of forage for livestock grazing.

18981 **Recommended Wilderness Areas**

18982 Concerning recommended wilderness, the proposed action, alternative P, and alternative O would  
18983 allow existing motorized uses to continue until Congress makes a decision on the Forest Service's  
18984 recommendation. None of the recommended wilderness areas recommended in alternative O  
18985 currently have National Forest System roads, or motorized trails.

18986 The only PWA recommended as recommended wilderness in alternative O is the Salmo-Priest  
18987 Adjacent of which is not contained within a grazing allotment. No permitted grazing exists in this  
18988 PWA, and therefore, there would be no effect to grazing by this recommendation.

18989 **Wildlife**

18990 There is nothing specifically in alternative O for wildlife that would affect livestock or allotment  
18991 management.

## **Riparian and Aquatic Resource Management**

The “guidelines” directing management for grazing practices in the Aquatic Riparian Conservation Strategy (ARCS) are unlikely to have a substantial effect on allotment management. The ARCS “standard” requiring new livestock handling, management or watering facilities to be located outside of riparian management areas (RMAs) could further constrain future management options in developing livestock management activities that may improve riparian vegetation and water quality. Additional standards or changing a guideline to a standard may put permittees at a higher risk of being in non-compliance with the allotment management plan.

Riparian Management Area widths vary by alternative. Riparian area widths for alternative O would increase compared to the no-action alternative and that experienced under the 1988 forest plan. This alternative increases riparian area widths for lakes and natural ponds from 150 feet to 300 feet.

## **Cumulative Effects (Common to all Alternatives)**

The cumulative environmental consequences for a programmatic Forest Plan also considers lands managed by other entities in the area and describes the relative contribution of the Forest Plan decision when considering surrounding landscape with other similarly scaled planning efforts and opportunities

The area for this cumulative effects analysis includes adjacent national forests, Bureau of Land Management, State, tribal, and private land.

Vegetative treatments are expected to occur on these adjacent lands at a similar level and intensity. These types of treatments would increase forage for livestock and improve rangeland condition.

Cattle grazing effects on Forest allotments and other allotments and/or pastures within these watershed areas affect vegetation by reducing plant height, canopy cover, and ground cover. The time frame for these combined effects is 30 years, 15 years in the past, and 15 years in the future because changes in condition and trend in the vegetation depend on the presence of favorable growing conditions after cattle leave the pasture. If growing conditions were favorable, plant height and canopy cover would completely recover within one year. If growing conditions were not favorable, plant recovery would occur more slowly (up to 2 to 3 years). Vegetation recovery from the other activities and natural events may take this long depending on climate.

The cumulative effect of adjacent Federal lands management would not change any of the direct and indirect effects. Grazing, where allowed on adjacent Federal lands, is intensively managed to accommodate other public land uses and to protect resource values. The effects to permit holders on other Federal lands are much the same as Forest Service permit holders on the Colville National Forest. There have been no significant changes in the management plans for adjacent Federal lands relative to grazing that would be considered a cumulative effect.

Livestock production costs would likely increase due to increase input costs and the availability of grazing lands decrease due to residential and agricultural development of private lands.

An effect associated with mechanical treatments and livestock grazing is the potential to spread invasive species from adjacent lands. New weed populations could occur from vehicle-transported seeds, disturbed soils and increased light availability following mechanical treatments or creation of seedbeds by livestock use. Livestock and wildlife can spread weed seeds, but livestock and wildlife use results in fewer new weed populations than those established along roads and trails by seeds spread from vehicle tires, equipment tracks, and/or attached soil (Tyser and Worley 1992; Tyser and



19034 Key 1988; Gelbard and Harrison 2003). This circumstance is attributed to the higher amount of  
19035 biotic and below-ground biotic resistance experienced in areas other than roads and trails (Gelbard  
19036 and Harrison 2003). All alternatives would contribute similarly to the control, treatment, and  
19037 eradication of invasive plant species introduced from outside the forests.

19038 Fires from adjacent lands can escape and spread onto the Colville National Forest. If they do, it could  
19039 lead to temporary grazing exclusions and impact ranching operations by requiring the permittee to  
19040 find new forage or sell all or part of the livestock.

## 19041 Monitoring Recommendations

19042 There are no monitoring recommendations related to range management at the Forest Plan level and  
19043 all monitoring would be identified and implemented at the allotment or project level.

## 19044 Minerals and Geologic Resources

19045 This section summarizes effects related to minerals and geologic resources from the specialist report,  
19046 with special emphasis on the publicly identified issues of “motorized recreation trails” “access,” and  
19047 “recommended wilderness” (Graham and Nooney 2015).

19048 The indicators shown in table 184 are used to evaluate effects on mineral resources of each  
19049 alternative. They are appropriate because they address risks to mineral resources from motorized  
19050 recreation trails, road access, and recommended wilderness. Geologic resources are protected as  
19051 described in the assumptions and were not a part of the significant issues, so are not addressed in the  
19052 effects analysis. The other significant issues are also addressed; however, they have little impact to  
19053 mineral resources, so effects indicators are not identified (see Nooney 2015).

19054 **Table 184. Evaluation criteria and key indicators for mineral resources**

Issue	Evaluation Criteria	Key Indicator
Motorized Recreation Trails	Evaluate the access for possible mineral operations	Percent of total forest acreage allocated to Backcountry Non-motorized management area by alternative
Road Access	Evaluate the access for possible mineral operations	Desired road density or cap on road miles for each alternative
Recommended Wilderness	Evaluate the access for possible mineral operations	Percent of total forest acreage in recommended wilderness management areas Qualitative description of low, moderate, and high mineral potential that intersects with recommended wilderness

## 19055 Affected Environment

19056 United States mining laws classify mineral commodities into three distinct groups: locatable,  
19057 leasable, and salable. Forest Service control or discretion over the disposal of various mineral  
19058 commodities ranges from a minimum with locatable minerals to a maximum with salable minerals.

19059 Locatable minerals include most metals and many non-metals (e.g., barite, fluorite, and gypsum).  
19060 Most Federal lands not withdrawn from mineral entry are available for the exploration and  
19061 development of locatable minerals by any U.S. citizen under provisions of the 1872 Mining Law, as  
19062 amended. Mineral operators are entitled to reasonable access to these lands including, where  
19063 reasonable and necessary, roaded entry. Forest Service control of such activities is limited to  
19064 minimizing surface impacts and is accomplished via an environmental analysis of individual  
19065 proposals (36 CFR 228 Subpart A).

19066 Leasable minerals are specific mineral resources identified by the Mineral Leasing Act of 1920, as  
19067 amended, the Mineral Leasing Act for Acquired Lands of August 7, 1947, the Geothermal Steam Act  
19068 of December 24, 1970, as amended, and the Federal Coal Leasing Amendments Act of August 4,  
19069 1976. Leasable minerals include oil and gas, coal, oil shale, and geothermal resources, as well as  
19070 sodium, potassium, phosphate, and a few others. On acquired lands these minerals, as well as those  
19071 that are normally locatable, are leased under the Leasing Act for Acquired Lands, August 7, 1947.  
19072 Forest Service regulations for oil and gas resources are found at 36 CFR 228 Subpart E.

19073 Salable minerals, also known as common variety minerals or mineral materials, include sand, gravel,  
19074 stone, and some other widely available mineral materials, as described in the Materials Act of  
19075 July 31, 1947. Forest Service regulations for these minerals are found at 36 CFR 228 Subpart C.

19076 It is Forest Service policy for minerals resource management to foster and encourage private  
19077 enterprise in the development of economically sound and stable industries, and in the orderly and  
19078 economic development of domestic resources to help assure satisfaction of industrial, security, and  
19079 environmental needs.

19080 The Colville National Forest has a geological environment favorable to the occurrence of mineral  
19081 deposits. Minerals occurring in most Colville National Forest System lands are federally owned  
19082 however, there are many outstanding or reserved mineral rights. Private parties acting on their rights  
19083 to outstanding mineral interests can potentially limit or impair the Forest Service from managing the  
19084 surface of the land for the purposes for which they were acquired. Three percent of the total forest is  
19085 withdrawn from mineral entry because it is wilderness. Other areas of the Forest such as  
19086 administrative sites, research natural areas, seed orchards, or recreation areas may also be withdrawn  
19087 from mineral entry.

#### 19088 Locatable Minerals

19089 Locatable minerals are those valuable deposits subject to exploration and development under the  
19090 General Mining Law of 1872 and its amendments. Commonly, these minerals are referred to as  
19091 hardrock minerals. The Forest Service and BLM (Bureau of Land Management) cooperate in  
19092 managing this resource; the Forest Service manages the surface resources that may be impacted by  
19093 mining activities, and the BLM manages the minerals. Potential for lead and zinc, limestone, and  
19094 silica predominates in the Meteline and Northport mining districts, while copper, silver, dolomite,  
19095 and silica are more common in the Chewelah, Loon Lake, and Newport areas. Limestone, dolomite,  
19096 and silica may be subject to disposal as locatable or salable minerals depending on the nature,  
19097 chemical composition, and use of the material. Precious metals are most important in mining districts  
19098 near Republic and Orient, especially gold. Gold exploration mining in the Republic area has  
19099 increased since the 1990s. The western Okanogan Highlands region has produced more than  
19100 3 million ounces of gold and almost 15 million ounces of silver from predominately the Republic  
19101 Mining District. (USDI 2011) Uranium potential is greatest in the Kettle Range and in the Selkirk  
19102 Mountains east of Colville and Chewelah. Small-scale minerals activities (panning, sluicing,  
19103 dredging, and rock/mineral collecting) are usually for non-commercial purposes.

19104 The Colville has approximately 744 mining claims covering 14,980 acres. The vast majority of those  
19105 claims are lode claims with only a few placer claims. In general, mineral activity on the Forest is  
19106 relatively minor in scope given the size and scale of the national forest. Current locatable mineral  
19107 activities on the Forest primarily include prospecting, exploration, claim staking, and limited mining  
19108 for select commodities. This level of activity is expected to continue. Locatable mineral activities  
19109 have included both metallic and nonmetallic minerals. Because of the relatively low potential for

19110 leasable minerals, development of important energy minerals is unlikely. One exception may be  
19111 uranium (which is locatable, not leasable).

19112 There would be continued interest in commercial and small-scale minerals activities, especially if the  
19113 prices of gold, silver, and other precious metals or base metals increase. Projecting long-term  
19114 demand for any specific mineral commodity is difficult because domestic demand is influenced by  
19115 many factors such as economic and geopolitical trends, some of which are national and international  
19116 in scale.

#### 19117 Leasable Minerals

19118 Federally owned, leasable minerals include fossil fuels and geothermal resources. These minerals are  
19119 subject to exploration and development under leases, permits, or licenses granted by the Secretary of  
19120 Interior with Forest Service consent. Only one portion of the Forest, running north and south of the  
19121 town of Republic along the Sanpoil, Curlew, and Kettle river valleys is identified as having a  
19122 moderate potential for oil and gas (USDI 2011) There is no or very low potential on the forest for  
19123 the occurrence of geothermal and coal resources (USDI 2011). Currently, there are no active mineral  
19124 leases or pending lease applications on the Forest.

19125 Demand, like locatable minerals, is influenced by economic and geopolitical factors. While the  
19126 United States has increased domestic production, most of the development has been in other parts of  
19127 the country, where there is greater mineral potential and permitting, development and production  
19128 costs are lower or there is less risk on investment return. This is likely to continue. As there is no or  
19129 very low potential for geothermal and coal resources on the Forest, demand would be filled  
19130 elsewhere.

#### 19131 Saleable Minerals

19132 Saleable mineral materials, or common varieties, are generally deposits of sand, clay, gravel, and  
19133 stone that are used for road surfacing and building materials. Disposal of these materials is by  
19134 mineral material permit or contract, and is at the discretion of the Forest Service. Saleable minerals  
19135 production and use is mainly for public works and Forest roads maintenance and construction.  
19136 However, private parties may also purchase saleable minerals from the Forest. Saleable mineral  
19137 materials, particularly sand, gravel and stone, are widely available throughout the Forest. Demand  
19138 for saleable minerals is expected to grow with increased land development.

#### 19139 Geologic Resources

19140 There are paleontological or fossil resources on the Forest that are managed in accordance with the  
19141 Paleontological Resources Preservation Act of 2009; implementing regulations are found at Title 36  
19142 Code of Federal Regulations 291 (36 CFR 291). Paleontological resources are protected from loss  
19143 due to threat, vandalism, or the natural elements through responsible planning, management,  
19144 partnerships with qualified museums and other institutions, and collaboration with Forest Service  
19145 law enforcement.

19146 Groundwater is the Nation's principal reserve of fresh water. Groundwater on National Forest  
19147 System (NFS) lands is a major contributor to flow in many streams and rivers, provides clean  
19148 drinking water to local communities, and supports groundwater-dependent ecosystems. The Forest  
19149 recognizes the importance of managing groundwater resources in a wise and sustainable manner in  
19150 accordance with the Forest Service national groundwater policy outlined in Forest Service Manual  
19151 2880.

Geologic hazards include events such as flooding, mass wasting, seismicity, ground subsidence, reactive soils, volcanic eruptions, toxicity associated with mineralization, acid mine drainage, and naturally occurring hazardous minerals and gases (e.g., asbestos, uranium, radon). Geologic hazards on NFS lands are managed to ensure protection of public safety, health, property, and the environment by using qualified geologists for the recognition, inventory, analysis, and interpretation of those hazards, and the integration of that information into forest and project planning, design, construction, maintenance, and monitoring activities, reviews of proposals, permits, approvals, concurrences, and recommendations for uses of NFS lands.

Caves and cave ecosystems are protected and maintained in accordance with Federal law. Caves of importance can be nominated for Significant Cave eligibility in accordance with the Federal Cave Resource Protection Act of 1988 and 36 CFR 290 due to things like unique geologic/hydrologic conditions or important sensitive biota that inhabits the cave. No caves on the Colville National Forest have been nominated for Significant Cave status.

The geologic resources and hazards outlined above are inventoried, evaluated, and managed on both a landscape level and as part of project specific design and analysis. Project design includes avoidance, mitigation or monitoring procedures necessary to protect geologic resources or address geologic hazards.

### **Environmental Consequences—Minerals**

The major influence of other resource management direction on minerals is their effect on access. This varies from no access in areas withdrawn from mineral entry, to high accessibility in general forest areas. Generally, prospecting and early exploration activities have little effect on other resources because of greater flexibility of access and equipment use at that stage. Actual mineral extraction may have minimal to great interaction with other resources, depending upon the location, the mineral being removed, and the process and type of equipment used. For example, a small underground mine, shipping ore directly to an existing offsite mill or smelter without processing and located in a general forest area, would have few effects. On the other hand, a large open pit mine and milling operation, located in wildlife habitat could potentially have a much greater effect on other resources.

### **Assumptions**

- Regardless of the alternative, mineral operations have to comply with Federal and state laws and regulations. These include but are not limited to laws such as Clean Water Act, or Endangered Species Act. Locatable minerals can be developed per the direction in the 1872 Mining Law, Forest Service regulations at 36 CFR 228A, and other pertinent laws and regulation on all areas of the Colville National Forest not withdrawn from locatable mineral entry.
- Geologic resources would be managed in accordance with the Paleontological Resources Protection Act of 2009 and Forest Service implementing regulations found at 36 CFR 291. Groundwater is managed in accordance with the Forest Service national groundwater policy outlined in Forest Service Manual 2880. Caves and cave ecosystems are protected and maintained in accordance with Federal law (Federal Cave Resource Protection Act of 1988 and 36 CFR 290.) The Forest's geologic resources are inventoried, evaluated, and managed on both a landscape level and as part of projects to protect geologic resources regardless of the alternatives.

19195 **Methods of Analysis**

19196 Risks to mineral resource operations are identified. The major influence of other resource  
19197 management direction on minerals is their effect on access. The level of risk is assessed by  
19198 alternative using percent of the Forest allocated to a management area that is associated with the risk,  
19199 either increasing or decreasing effects.

19200 **Spatial and Temporal Context for Effects Analysis**

19201 The spatial affected environment for direct and indirect effects is the lands administered by the  
19202 Colville National Forest. Effects are analyzed over the life of the forest plan, which is expected to be  
19203 15 years.

19204 **Past, Present, and Foreseeable Activities Relevant to Cumulative Effects Analysis**

19205 The affected environment for cumulative effects includes the Confederated Tribes of the Colville  
19206 Reservation lands, Kalispel Tribe Reservation lands, lands administered by the Idaho Panhandle  
19207 National Forests; other Federal and State lands; and lands of other ownership adjacent to the Colville  
19208 National Forest boundaries.

19209 **No-action Alternative**

19210 Access is the main factor affecting minerals operations. The current forest plan limits minerals  
19211 operations in old forest management areas and riparian habitat conservation areas. It also excludes  
19212 saleable mineral operations from non-motorized management areas, research natural areas (RNA),  
19213 ski areas, the recreation/wildlife management area 3B, and old growth management areas (MA-1). In  
19214 addition, the current forest plan recommends mineral withdrawal for RNAs. The Salmo-Priest  
19215 wilderness area is withdrawn from mineral entry, which accounts for three percent of the total forest  
19216 area. Wildlife, riparian, and old forest management requirements may add time and costs to mineral  
19217 operations.

19218 **Effects on Minerals from Old Forest Management**

19219 Currently the forest plan includes management areas that emphasize managing for old forest habitats.  
19220 Saleable mineral activities are not allowed in these areas. Mineral resource exploration and  
19221 development would include reasonable requirements to protect old growth wildlife habitat. Old  
19222 forest management emphasis can increase the time and costs of mineral operations, by imposing  
19223 limits on mineral operation to protect and maintain old forests. The effect of these management  
19224 restrictions on mineral activities is minimal as they apply to three percent of the total forest area.

19225 **Effects on Minerals from Motorized Recreation**

19226 The major influence of other resource management direction on minerals is their effect on access.  
19227 About 12 percent of the forest is in a backcountry non-motorized type of management area. Due to  
19228 budget trends, the motorized trail system is likely to see small additions in the future so current  
19229 access would continue but not meaningfully increase. For saleable minerals, a non-motorized  
19230 designation essentially eliminates the opportunity to exploit mineral materials as the current forest  
19231 plan excludes these areas from saleable minerals disposal. For locatable and leasable minerals,  
19232 motorized access on existing, open forest system roads/trails, road/trail reconstruction, or new  
19233 road/trail construction can still be permitted in designated non-motorized areas through the  
19234 applicable regulatory processes.

### Effects on Minerals from Road Density

The major influence of other resource management direction on minerals is their effect on access. Current road density direction would continue. Today, there are about 4,000 miles of National Forest System roads, and about 80 percent of the forest is suitable for road construction. The current forest plan includes standards and guidelines that limit road densities to between 0.4 to 2 miles per square mile in deer and elk winter range; grizzly bear habitat areas; and lynx habitat. Outside of these habitats, the forest plan doesn't set an upper limit on road density. Today the average National Forest System road densities in 12th field watersheds range from a low of 0.33 to a high of 4.45 miles per square mile on National Forest System lands. Due to budget trends, the total miles of National Forest System roads are expected to remain the same or decrease slightly over the next 10 years.

Access for saleable mineral materials would continue at current levels or be slightly less. For locatable and leasable minerals, road decommissioning to achieve road density standards may limit motorized access on existing, open forest system roads during initial prospecting and exploration activities in places. However, alternative means of access are possible and road reconstruction or new construction can always be proposed and approved in accordance with applicable regulations. Proposed road reconstruction or new road construction in management areas with road densities at or above standards would require amendments to the Forest Plan which can increase permitting timelines and costs.

### Effects on Minerals from Recommended Wilderness

Under the current Forest Plan there is no recommended wilderness on the Forest. Currently, 3 percent of the Forest is allocated to wilderness and withdrawn from mineral entry. Research natural areas, also to be withdrawn, account for 0.4 percent of the total forest area. The current forest plan has a minerals standard that directs the Forest to minimize the acres withdrawn for mineral entry to that necessary for protecting dedicated areas such as developed recreation sites, wilderness, research natural areas, and administrative sites. (FEIS 4-57)

### Effects on Minerals from Wildlife

Wildlife direction can result in timing restrictions and avoidance of specific sites for wildlife protection, for minerals activities. Measures can vary by the type of mineral operation and location. The effect can be to increase time to permit and approve plans of operation and cost of mineral operations, but would not be known until projects are developed. Protection of wildlife and compliance with ESA is required of all mineral operations. This would continue.

### Effects on Minerals from Riparian and Aquatic Resource Management

Direction limiting location of facilities or types of operations can have the effect to increase time to permit, approve plan of operations, and cost of mineral operations. The extent of effects can vary by the type of mineral operation and location, which is unknowable until site-specific projects are developed. Protection of water quality and compliance with the Clean Water Act is required of mineral operations. The current forest plan does address mineral operations in relation to riparian and aquatic resources. Minerals operations in riparian habitat conservation areas (RHCA) directs operators to take all practicable measures to maintain, protect, and rehabilitate fish and wildlife habitat that may be affected by the operations. Surface occupancy for leasable minerals and saleable mineral operations are limited to those operations that meet riparian objectives and alternative locations are not available. This would continue

19277 **Effects Common to All Action Alternatives**

19278 **Old Forest Management and Timber Production**

19279 The effects of vegetation management are the same for all alternatives. It is not expected that any of  
19280 the vegetation direction would adversely or positively affect minerals to any degree.

19281 **Wildlife**

19282 Wildlife direction in all alternatives could result in timing restrictions and avoidance of specific sites  
19283 for wildlife protection, for minerals activities. Measures can vary by the type of mineral operation  
19284 and location. The effect can be to increase time to permit and cost of mineral operations, but will not  
19285 be known until projects are developed. Protection of wildlife and compliance with ESA is required of  
19286 mineral operations under any alternative.

19287 **Riparian and Aquatic Resource Management**

19288 Direction limiting location of facilities or types of operations can have the effect to increase time to  
19289 permitting, plan of operation approval, and cost of mineral operations. Effects can vary by the type  
19290 of mineral operation and location. The extent and duration of effects is unknowable until site-specific  
19291 projects are developed. All of the action alternatives have riparian management areas with plan  
19292 direction that addresses mineral operations. The proposed action and alternative R include a  
19293 guideline that limits locating mine wastes in RMAs, that is not included in other action alternatives.  
19294 This would have a minimal effect on mineral operations. Since protection of water quality and  
19295 compliance with the Clean Water Act is required of mineral operations in all alternatives, the  
19296 difference in effects from riparian and aquatic resource management across alternatives is minimal.

19297 **Access**

19298 Access by motorized recreation trails and roads are a factor for saleable minerals exploration and  
19299 exploitation. When considered along with the amount of land allocated to recommended wilderness,  
19300 the B and R put the largest total amount of the forest into allocations (BCNM and RW) that don't  
19301 allow roads or motorized trails. Alternatives B and R would have the highest effect on access for  
19302 saleable minerals.

19303 For locatable and leasable minerals, lower road densities or lack of motorized trails can increase time  
19304 and costs during initial prospecting and exploration activities. Motorized access on existing roads  
19305 and trails or proposed road/trail reconstruction/construction could still be approved in non-motorized  
19306 areas for leasable operations, so long as the management area does not have a No Surface Occupancy  
19307 or Controlled Surface Use suitability determination, and for all locatable operations on lands open to  
19308 mineral entry.

19309 **Recommended Wilderness**

19310 Wilderness recommendation alone removes lands from consideration for leasing and saleable  
19311 mineral materials use. Mining claims and active locatable operations in recommended wilderness  
19312 would not be affected until the area is designated as wilderness by Congress. Alternatives B and R  
19313 allocate the highest amount of the forest to recommended wilderness, which would withdraw the  
19314 most land from mineral entry.

## Indirect Effects of Action Alternatives

### Motorized Recreation Trails

For saleable minerals, a non-motorized designation essentially eliminates the opportunity to exploit mineral materials. Areas allocated to Backcountry Non-motorized (BCNM) management areas vary across the alternatives as shown in table 185. Alternative O allocates the highest amount of land to a BCNM allocation. However, when considered along with the amount of land allocated to recommended wilderness, the B and R alternatives put the largest total amount of the forest into allocations (BCNM and RW) that do not allow roads or motorized trails. Alternatives B and R would have the highest effect on access for saleable minerals.

For locatable and leasable minerals, an increase in non-motorized management area acreage can limit motorized access on existing, open forest system roads and trails for initial prospecting and exploration activities that may not otherwise require Forest Service regulatory approvals. Motorized access on existing roads and trails or proposed road/trail reconstruction/construction could still be approved in non-motorized areas for leasable operations, so long as the management area does not have a No Surface Occupancy or Controlled Surface Use suitability determination, and for all locatable operations on lands open to mineral entry.

**Table 185. Percentage of total forest acres in backcountry non-motorized management area**

Proposed Action	Alternative R	Alternative P	Alternative B	Alternative O
8	2	14	Less than 1%	16

### Road Density

The major influence of other resource management direction on minerals is their effect on access. For saleable minerals, a lower road density can adversely affect opportunity to exploit mineral materials due to less open roads on the landscape. Alternatives R and P have the lowest road densities and would limit access the most.

For locatable and leasable minerals, lower road densities or road decommissioning to achieve lower road density standards can decrease existing motorized access on open forest system roads during initial prospecting and exploration activities that may not otherwise require Forest Service regulatory approvals. However, alternative means of reasonable access are possible and use of existing but closed roads and road reconstruction/construction can be proposed and approved for mineral operations in accordance with applicable regulations. Proposed road reconstruction or new road construction in management areas with road densities at or above standards would require amendments to the forest plan, which can increase permitting timelines and costs for mineral operations.



19347 **Table 186. Upper limit of desired road density or road miles**

Proposed Action	Alternative R	Alternative P	Alternative B	Alternative O
2-3 miles per square mile. Applicable in Focused Restoration (Active Restoration B) and General Restoration (Active Restoration C)	1-2 miles per square mile. Applicable in Focused and General Restoration	1-2 miles per square mile. Applicable in Focused and General Restoration	Cap USFS road miles at current level. Applicable forestwide.	Cap USFS road miles at current level. Applicable forestwide.

19348 **Recommended Wilderness**

19349 Currently, 3 percent of the Forest is in designated wilderness. Until Congress decides to designate the  
 19350 recommended wilderness areas as wilderness, they remain open to mineral entry under the U.S.  
 19351 Mining and Mineral Leasing Laws. Persons prospecting, locating and developing mineral resources  
 19352 in NFS lands under the 1872 Mining law have a right of access for those purposes. Requests for  
 19353 access to mining claims located in recommended wilderness would be processed according to  
 19354 existing authorities, regulations and policy. The claimants access (road or trail, motorized or non-  
 19355 motorized) would be specified in a Plan of Operations submitted to the District Ranger. The Forest  
 19356 Service is not obligated to approve or issue a permit regulating access if the proposed means or  
 19357 modes of transport are not reasonably necessary for the work to be performed for prospecting,  
 19358 location, or mineral development. Access is not authorized until the District Ranger signs the  
 19359 Operating Plan.

19360 If the recommended wilderness areas become congressionally designated wilderness, those areas  
 19361 would be withdrawn and closed to mineral entry under the U.S. Mining and Mineral Leasing Laws,  
 19362 subject to valid existing rights. Any known or currently undiscovered mineral deposits in  
 19363 congressionally designated wilderness areas will be foregone and not available for exploitation to  
 19364 support domestic or global demand unless another act of Congress makes them available. Mining  
 19365 claims with valid existing rights in designated wilderness could continue to operate in a logical,  
 19366 sequential development scenario, including mining.

19367 After formal wilderness designation, the Forest Service would conduct valid existing rights  
 19368 determinations before approving most proposed locatable activities in wilderness. Alternatives B and  
 19369 R allocate the highest amount of the forest to recommended wilderness which, if selected and later  
 19370 designated by Congress, would withdraw the most land from mineral entry.

19371 Research natural areas and the wild segment of wild and scenic rivers are to be withdrawn from  
 19372 mineral entry also. The proposed action includes a recommendation for a segment of a wild river, so  
 19373 the effects of additional mineral withdrawals come from possible wilderness and wild river  
 19374 designations by Congress.

19375 Wilderness recommendation alone removes lands from consideration for leasing and saleable  
 19376 mineral materials use.

19377 **Table 187. Percentage of total forest acres in recommended wilderness**

Proposed Action	Alternative R	Alternative P	Alternative B	Alternative O
9	19	5	20	1

## **Environmental Consequences – Geologic Resources**

### **Effects of the No-action Alternative**

#### ***Paleontological Resources***

Paleontological or fossil resources on the Forest are managed in accordance with the Paleontological Resources Preservation Act of 2009 and implementing regulations found at 36 CFR 291. Bedrock or sediments ranging in age from late Precambrian age to Pleistocene have the potential to contain paleontological resources, and surface disturbing activities in these areas may negatively impact paleontological resources. The areas of the Forest containing Precambrian and Pleistocene deposits have been mapped during a Pacific Northwest Region – Forest Service effort several years ago.

#### ***Groundwater***

Groundwater is the Nation's principal reserve of fresh water. Groundwater on National Forest System (NFS) lands is a major contributor to flow in many streams and rivers, provides clean drinking water to local communities, and supports groundwater-dependent ecosystems. The Forest recognizes the importance of managing groundwater resources in a wise and sustainable manner in accordance with the Forest Service national groundwater policy outlined in Forest Service Manual 2880. See the forest Hydrology report for additional information on the Forest's management of groundwater.

#### ***Geologic Hazards***

Geologic hazards include events such as flooding, mass wasting, seismicity, ground subsidence, reactive soils, volcanic eruptions, toxicity associated with mineralization, acid mine drainage, and naturally occurring hazardous minerals and gases (e.g., asbestos, uranium, radon). Geologic hazards on NFS lands are managed to ensure protection of public safety, health, property, and the environment. Qualified Forest Service geologists are consulted for the recognition, inventory, analysis, and interpretation of geologic hazards, and that information is integrated into forest and project planning, design, construction, maintenance, and monitoring activities, reviews of proposals, permits, approvals, concurrences, and recommendations for uses of NFS lands.

#### ***Caves and Cave Ecosystems***

Caves and cave ecosystems are protected and maintained in accordance with Federal law. Caves of importance can be nominated for Significant Cave eligibility in accordance with the Federal Cave Resource Protection Act of 1988 and 36 CFR 290 due to things like unique geologic/hydrologic conditions or important sensitive biota that inhabits the cave. There is one known cave on the Colville National Forest (Pocahontas Cave), and a few suspected but unverified caves. No caves on the Colville National Forest have been nominated for Significant Cave status.

The geologic resources and hazards outlined above are inventoried, evaluated, and managed on both a landscape level and as part of project specific design and analysis. Project design includes avoidance, mitigation or monitoring procedures necessary to protect geologic resources or address geologic hazards.

### **Effects Common to All Action Alternatives**

The proposed action and alternatives O, B, R, and P would result in the following common conditions.

19418 It is not expected that any of the action alternatives would adversely or positively affect geologic  
19419 resources to any degree. Management of these resources would continue in accordance with  
19420 applicable law, policy, and direction.

19421 The adoption of any action alternative would not change the management of geologic resources and  
19422 hazards. The geologic resources and hazards would continue to be inventoried, evaluated, and  
19423 managed on both a landscape level and as part of project-specific design and analysis. Project design  
19424 includes avoidance, mitigation, or monitoring procedures necessary to protect geologic resources,  
19425 address geologic hazards, and provide for public safety.

## 19426 **Cumulative Effects**

### 19427 **Past, Present, and Foreseeable Activities Relevant to Cumulative Effects Analysis**

19428 The area for considering cumulative effects includes the lands within the Colville National Forest  
19429 administrative boundary. In consideration of all past, present, and foreseeable actions, no cumulative  
19430 effects to minerals or geologic resources are anticipated.

19431 Mineral development on privately owned lands is discretionary with the landowners. Lands managed  
19432 by Washington State agencies and the USDI, Bureau of Land Management have minerals generally  
19433 available by lease or location. National Parks are withdrawn from mineral entry, so they have no  
19434 mineral activities. Adjacent national forests have the same management direction as Colville  
19435 National Forest for minerals activities. Leasable, locatable, and saleable activities would continue on  
19436 adjacent Federal and State lands. The level of mineral activities would depend on market prices and  
19437 mineral potential, same as the national forest. Leasable mineral exploration for oil and gas on lands  
19438 outside the Forest and within the Columbia Basin was active in the early 2000s, and has since  
19439 tapered off. There are no current geothermal leases on the other national forests, Confederated Tribes  
19440 of the Colville reservation lands, or BLM high potential lands. Locatable mineral claims are filed  
19441 Ferry, Pend Oreille, and Stevens counties. There has been no marked increase in activity over the last  
19442 10 years, even with increased prices of precious and base metals.

19443 Adjacent lands have not recently made or intend to make major changes in management of  
19444 motorized recreation, road density, and recommended wilderness. There are no past, present, or  
19445 reasonably foreseeable actions that would add to the direct and indirect effects described.

## 19446 **Recreation**

19447 The 1982 Planning Rule, Sec. 219.21 Recreation Resource, requires that a broad spectrum of forest-  
19448 and rangeland-related outdoor recreation opportunities are provided for in each alternative developed  
19449 during the forest plan revision process. It further states that the planning process identify: (1) the  
19450 physical and biological characteristics that make land suitable for recreation opportunities, (2) the  
19451 recreation preferences of user groups and the settings needed to provide quality recreation  
19452 opportunities, and (3) recreation opportunities on National Forest System lands.

19453 Recreation opportunities on the forest are identified and managed through the Recreation  
19454 Opportunity System (ROS). A recreation opportunity is defined as “the availability of a real choice  
19455 for a user to participate in a preferred activity in a preferred setting, in order to realize desired  
19456 experiences” (U.S. Forest Service 1982). The ROS is a method used to categorize, evaluate, and  
19457 monitor settings and opportunities based on the natural, managerial, and social environments. Six  
19458 ROS classes currently apply to NFS lands: Primitive, Semi-Primitive Non-Motorized, Semi-  
19459 Primitive Motorized, Roaded Natural, Rural, and Urban (U.S. Forest Service 1982). In addition, the  
19460 Colville National Forest used a sub-class of Roaded Natural, called Roaded Modified, during the

development of its 1988 forest plan. ROS current condition inventory information is not available for the Colville National Forest. Instead, the existing 1988 forest plan ROS Classifications would be used as the baseline for comparison of impacts to ROS settings by alternative throughout this section.

In addition to the requirement to identify lands suitable for recreation use, three issues were identified through public comments where the recreation preferences of user groups varied: recommended wilderness, motorized recreation trails, and road access. Indicators related to these issues are described in table 188.

**Table 188. Evaluation criteria and key indicators for recreation resources**

Issue	Evaluation Criteria	Key Indicator(s)
Identification of Lands Suitable for Recreation Use	Evaluate the distribution of areas open to motorized and non-motorized recreation opportunities and the corresponding recreation management setting	Recreation – acres of allocations for motorized/non-motorized use ROS – acres in each of the ROS Classes
Motorized Recreation Trails	The distribution of motorized and non-motorized recreation trails and areas to assess contribution to motorized / non-motorized recreation opportunities. The contribution of motorized recreation on the national forest to the local county economy.	Recreation – location, trail miles and acres of allocation for motorized and non-motorized use Evaluation of access to motorized and non-motorized trails
Access	Evaluate the effects of road density limits on roaded access for recreation use, wildfire suppression, and vegetation management activities, specifically commercial timber harvest	Location and amount of allocations suitable for roads Social impact related to recreation opportunities
Recommended Wilderness	Whether recommended wilderness areas contribute to the need for wilderness. The availability tradeoffs, especially summer and winter motorized uses. The market and non-market costs and benefits associated with wilderness.	Location and amount of recommended wilderness Miles of trail available for mechanized or motorized use

## Introduction

The Colville National Forest offers a variety of recreation opportunities that are consistent with the rolling to steep mountainous terrain typical of the Okanogan Highlands landform province and the Selkirk Mountains. Winter or summer, the forest offers easy road and trail access to a full suite of motorized and non-motorized recreational pursuits—from resort-based downhill and cross-country skiing to snowmobiling and backcountry skiing; from developed campgrounds to quaint dispersed campsites tucked along one of the forest's many creeks; from a variety of OHV trail systems to remarkable backcountry and wilderness settings rich with stock, mountain bike, and hiking trails that highlight many of the tallest peaks in northeast Washington. As a Forest with a limited amount of designated wilderness, but rich in undeveloped backcountry, the Colville experiences pressure from non-motorized and motorized recreation interest groups whose use of those backcountry areas overlaps. As a result, the distribution of motorized and non-motorized recreation opportunities on the Forest is of great interest to many of the visitors to the Colville National Forest, 89 percent of which travel 100 miles or less to visit the Forest. (NVUM 2012b) Backcountry and motorized recreation opportunities, as well as the many other recreation opportunities provided for on the Colville National Forest, contribute significantly to the local, county, and State economies and are a key component of the lifestyle and family customs of many northeastern Washington residents.

## Affected Environment

In 2005, the Colville National Forest completed a Recreation Site Facility Master Plan (RSFMP) process to identify the Forest's recreation niche and identify actions that would move the Forest toward providing a quality, sustainable developed recreation site program. The RSFMP served as a framework from which the Forest prioritized investments and pursued changes in the operation and maintenance of developed recreation sites. Under the RSFMP, the Colville National Forests Recreation Niche was: *Rustic Recreation – A Dispersed Recreation Playground for Our Communities supported by rustic facilities scattered throughout the forest and connected by a network of scenic routes.* (U.S. Forest Service 2005)

By 2012, the Forest identified that the RSFMP Niche was becoming dated in its focus on developed recreation site infrastructure and that stakeholders through collaborative meetings associated with Proof of Concept (a unique budget model the Forest piloted from 2008 to 2012) and NEWSTART (a local recreation collaborative started in 2009 that focuses on sustainable recreation strategies) were asking the Forest to provide more through its recreation program than the RSFMP Niche could support.

In response, the Colville National Forest developed a sustainable recreation strategy to help guide its efforts and investments. The strategy addresses increasing recreation demands through integrating the recreation program with other resource areas to balance social, ecological and financial needs. The overarching goal is to focus on mission-driven priorities, connect recreation benefits to communities, provide for changing urban populations, and most importantly, provide balanced quality recreation opportunities while maintaining a functioning environment. The vision statement for the Forest's sustainable recreation strategy is: *The Colville National Forest is known for its pathways to discovery through a series of linked byways and trails which lead to high quality recreation opportunities, destinations and beyond.*

Goals were developed to describe the specific focus areas that would be implemented under the sustainable recreation strategy. These goals include:

1. Focused high quality: We strive to maintain and strategically enhance recreation opportunities and settings that are associated with key pathways instead of attempting to provide every opportunity everywhere.
2. Youth and Conservation through recreation: Conservation education emphasizing youth is focused on fun, creativity and a sense of wonder and excitement through discovery.
3. Innovative options: Recreation program capacity is enhanced by our culture of innovation and non-traditional approaches. (U.S. Forest Service 2012a)

The Forest's sustainable recreation strategy brings forward the RSFMPs idea of connecting to recreation through a network of scenic routes and takes it a step further to include all recreation opportunities. Since the sustainable recreation strategy is designed to balance social, ecological and financial needs and conditions, as any of these change (such as available funding) the strategy would evolve.

## Analysis Area

The analysis area includes all lands administered by the Colville National Forest.

## Survey, Trend, and Use Information<sup>1</sup>

Demand for access to the Colville National Forest for recreation purposes has increased steadily over the past 26 years since the last forest plan was developed. During that same time, the growth in recreation in the Nation has been extraordinary. For example, participation in camping increased from about 47 million people in 1982 to 1983 to almost 89 million people in 2005 to 2009 (Cordell et al. 2009). Between 2000 and 2007, the total number of recreation activity days increased approximately 25 percent (Cordell et al. 2008). The activities of viewing and photographing birds, day hiking, backpacking, off-highway motor vehicle (OHV) driving, walking outdoors, and canoeing/kayaking have seen the greatest growth in the last two decades (Cordell et al. 2009).

Trend analysis in the 2013 Washington State Comprehensive Outdoor Recreation Plan (SCORP) indicates similar findings to the studies by Cordell and points to a dramatic increase in participation in many nature-based activities. The 2013 SCORP report indicates the most intensive users of public facilities and lands participate in hiking, beachcombing, picnicking/barbecuing/cooking out, wildlife viewing, and swimming in pools or natural waters. The report goes on to state that a third of Washington state residents participate in the following activities at a level lower than they would like: hiking, camping, fishing, walking, bicycling, off-road driving, and hunting. In addition, some activities have had a marked increase in ranking since the previous SCORP, including visiting a nature interpretive center, climbing or mountaineering, firearms use (hunting or shooting), inner tubing or floating, and camping in a primitive location. Finally, the SCORP's assessment of the supply of outdoor recreation facilities and opportunities in Washington suggests that the supply of recreation is not completely meeting public demand, and meeting that demand is further challenged by the pressure of population growth and urbanization in Washington and that a major focus of recreation planning over the next 5 years should be in providing those nature-based activities for Washington residents while maintaining the integrity of the ecosystems upon which those recreational activities depend. (Washington State Recreation and Conservation Office 2013)

Because of the rising demand for recreation opportunities on public land and the increasing economic dependency of communities on that use, several studies have been conducted in the past decade to assess use and trends. Although studies vary in their results, there are several trends that are common in every study:

- The national population is growing and the amount of people recreating in the outdoors is increasing along with the growing population.
- Users are more diverse and more women are participating in outdoor recreation.

<sup>1</sup> Trend data for this section was considered from the following sources: Hall, *Likely Trends in National Forest Recreation in Region Six (Draft)*, University of Idaho, 2005; Hall et al, *Understanding Recreation Trends in the Pacific Northwest: State of Knowledge and Manager's Needs*, Draft 2004; USDI Fish and Wildlife Service, 2001 *National Survey of Fishing, Hunting, and Wildlife Associated Recreation*, Washington, Revised March 2003 <http://www.census.gov/prod/2003pubs/01fhw/fhw01-wa.pdf>; Office of the Interagency Committee [IAC], 2002. Interagency Committee for Outdoor Recreation: *An assessment of outdoor recreation on Washington state—a State Comprehensive Outdoor Recreation Planning Document [SCORP] 2002-2007*. The Office of Interagency Committee, PO Box 40917, Olympia, WA. 98504-0917; Outdoor Industry Foundation, *Outdoor Recreation Participation Study, Seventh Edition, for year 2004*, 2005; Cordell, USDA Forest Service, Southern Research Station, Recreation Statistics Update Report Numbers 1-3, 2004; Cordell et al, USDA Forest Service, Southern Research Station, *Off-Highway Vehicle Recreation in the United States, Regions and States: A National report from the National Survey on Recreation and the Environment (NSRE)*, 2005; Cordell, H. Ken; Betz, Carter, J.; Butler, Brett J.; Bergstrom, John C. 2008. Trends in Forest-Based Recreation: Reports for the 2010 Montreal Process Indicators for the U.S.; Cordell, H. Ken; Green, Gary T.; Betz, Carter J. 2009. Long-term National Trends in Outdoor Recreation Activity Participation---1980 to Now; Washington State Recreation and Conservation Office. 2013. Outdoor Recreation in Washington, The 2013 State Comprehensive Outdoor Recreation Plan. Olympia, Washington.

- 19559       • The average age of people recreating is increasing.
- 19560       • Interest in new recreation activities has grown significantly, although the most popular
- 19561       historical recreation activities (camping and hiking) have held steady and are still the most
- 19562       popular activities today.
- 19563       • People are using national forests for shorter durations. They prefer more weekend
- 19564       experiences rather than multi-week ventures.
- 19565       According to Roper surveys in 2000, activities that are more strenuous start dropping off after age
- 19566       65. However, more Americans are remaining active into their older years, and those who reach age
- 19567       65 in the next 10 to 15 years would likely seek out more vigorous activities (Hall 2005). This
- 19568       prediction implies that with a generation of health-minded, active baby boomers retiring and having
- 19569       more leisure time, the demand for challenging experiences may remain steady.
- 19570       Statewide, the population is expected to grow 16.5 percent between 2012 and 2027 (State of
- 19571       Washington Office of Financial Management 2011). The Hispanic population is expected to increase
- 19572       substantially in Washington State and the Asian/Pacific Islander population is expected to increase
- 19573       almost as much, from about 425,000 in 2005 to 700,000 in 2025 (Hall 2005). Surveys have shown
- 19574       that many Hispanic people prefer camping in a group atmosphere and enjoy activities that involve
- 19575       the whole family. There is very little known at this time about preferred outdoor activities for the
- 19576       Asian/Pacific Islander population. However, monitoring for satisfaction would continue, and future
- 19577       surveys may start to show trends in Asian/Pacific Islander activities.
- 19578       To gain a better understanding of the recreation use, importance of, and satisfaction associated with
- 19579       national forest recreation opportunities, the Forest Service embarked on the national visitor use
- 19580       monitoring project (NVUM) in the late 1990s. The Colville National Forest has conducted three
- 19581       rounds of surveys in fiscal years 2004, 2009, and 2014. Each survey is conducted over the course of
- 19582       one year (October 1 to September 30) and includes questions regarding visitor use (activities),
- 19583       expenditures on recreation activities, and user satisfaction associated with the activities, settings, and
- 19584       infrastructure used while visiting the Forest.
- 19585       Without several years of survey data to consider, it is difficult to predict use trends from the Forest's
- 19586       NVUM data. However, the Forest can use the data most recently collected to help determine existing
- 19587       use. Table 189 shows the most popular visitor activities according to the 2009 Colville National
- 19588       Forest NVUM report (the 2014 report has not been completed). This table shows both the main
- 19589       activity visitors engaged in and the participation percentage for all activities. For example,
- 19590       18.5 percent of the visitors interviewed in 2009 were camping in developed campgrounds, but only
- 19591       8.5 percent of them listed it as their main activity.
- 19592

19593 **Table 189. Percent participation in activities and primary activities of Colville National Forest recreation**  
 19594 **visitors based on 2009 NVUM Reports<sup>2</sup>**

Activity	Percent Participation	Percent Main Activity	Average Hours doing Main Activity
Viewing Natural Features	30.7	12.0	3.9
Hiking / Walking	29.0	7.8	4.5
Relaxing	28.3	5.7	30.3
Downhill Skiing	24.0	23.3	4.8
Driving for Pleasure	21.9	2.0	2.9
Viewing Wildlife	20.9	0.4	2.4
Developed Camping	18.5	8.5	52.2
Gathering Forest Products	13.8	8.6	5.0
Fishing	13.6	5.5	6.5
Picnicking	13.3	0.4	13.2
Other Non-motorized	9.1	2.5	1.7
Motorized Trail Activity	8.3	4.3	3.5
Snowmobiling	7.7	7.2	4.4
OHV Use	6.6	1.4	3.1
Primitive Camping	6.0	1.7	64.7
Motorized Water Activities	6.0	2.2	4.3
Bicycling	5.1	1.0	7.6
Nature Study	4.9	0.7	1.1
Non-motorized Water	4.2	1.1	6.5
Hunting	3.6	1.6	12.2
Visiting Historic Sites	3.2	0.0	0.0
Nature Center Activities	3.1	0.0	1.0
Cross-country Skiing	2.6	1.6	3.7
Backpacking	2.5	0.4	15.9
Resort Use	2.0	0.0	12.8
Some Other Activity	1.3	0.4	3.3
Other Motorized Activity	0.8	0.7	1.0
Horseback Riding	0.7	0.1	10.3

19595 In general, results from the 2009 NVUM survey indicate that most visitors to the Colville National  
 19596 Forest are satisfied, if not very satisfied, with the recreation experience they had while visiting the  
 19597 Forest (there were very few somewhat dissatisfied or very dissatisfied experiences noted). In  
 19598 addition, most visitors did not feel overcrowded during their visit. There are, however, a few site-  
 19599 specific contradictions to this information connected with specific recreation areas and days (i.e.,  
 19600 Memorial Day and July 4th weekends, opening day of hunting season, etc.). Overall, recreation  
 19601 managers on the Forest are still able to provide satisfying recreation experiences to the majority of  
 19602 Forest visitors in a relatively uncrowded setting.

<sup>2</sup> U.S. Forest Service. 2012. 2009 Visitor Use Report, Colville National Forest, National Visitor Use Monitoring Data Collected FY 2009.



Historically, people have enjoyed relatively easy access to a variety of recreation opportunities on Federal public lands. Recreation management on National Forest System lands consists of providing a wide range of environmentally sustainable recreation opportunities in natural settings that meet the current and future needs and desires of Forest visitors at a level consistent with national budget trends. Forest recreation managers are charged with providing this wide range of outdoor recreation opportunities within the parameters of national direction, local resource conditions, and available budgets. Since the end of World War II, demand for outdoor recreation on public lands has grown immensely and is the fastest growing use on national forest system lands.

The Colville National Forest provides the majority of the nature-based mountain recreation opportunities in northeastern Washington. Key attractions include viewing natural features, hiking/walking, relaxing, downhill skiing, driving for pleasure, viewing wildlife, and developed camping (NVUM 2012b). While some level of recreation activity occurs almost everywhere on the forest, the majority of summer use is concentrated near water (lakes, streams, and rivers), around campgrounds and day-use developed sites or along Forest System trails and roads. In the winter, many roads are managed as snowmobile trails and some roads are managed as cross-country ski trails. Ski areas, both downhill and cross-country, provide key winter destinations, where large seasonal concentrations of recreation use occur. While recreation visits are fewer in spring, there is no off-season here. Use is year-round, with visitor numbers peaking on holidays, weekends and during the first weeks of hunting and fishing seasons.

National forests provide a variety of opportunities for recreating, working, and practicing cultural and spiritual traditions. In turn, communities provide infrastructure and skills to support forest management. Sustainable social and economic opportunities are dependent on well-functioning and resilient ecological systems. Over the past 20 years, demographic and economic changes have altered how people use and access the national forests. There is a need for the Forests to contribute to predictable and sustained flows of economic and social benefits (e.g., ecosystem services) within the capability of the ecosystem. Social changes include an increasing demand, largely due to population growth, for a variety of recreation opportunities on public lands. New activities and modes of travel continue to appear; for example, mountain bicycles with over-snow tires and snowmobiles that resemble motorcycles. In addition, demand for recreation opportunities in ‘front country’ areas is greater than for backcountry areas.

Recreation in northeast Washington is rooted in local traditions, yet is constantly changing and posing new and increased challenges for agency managers. Forest Service identity is strong in the local communities. People who live in the area are concerned about forest management, have place attachments to the landscape, and are interested in management changes that could affect their lifestyle or livelihoods. Local lifestyles and economics are firmly linked to public land, with the majority of people who visit, influence, or are directly influenced by the Colville National Forest living within two-hours driving time of these lands (NVUM 2012b). Recreation facilities, areas, and programs on Colville National Forest lands influence local economies by prompting business in the tourism and retail sectors. Regional and national tourism, along with local Forest recreation use, are factors in the viability of many small businesses in the area.

## **Need for Change**

### **Identification of Lands Suitable for Recreation Use**

National Forest System lands are generally suitable for a variety of uses, including recreation. The Responsible Official, as appropriate, shall utilize existing laws, regulation, and policy, as well as social, economic, and ecological considerations to identify suitability of areas within a National

Forest System unit. Land use specifically excluded by law, regulation or policy; or use that would result in substantial and permanent impairment of the productivity of the land; or use that is incompatible with the desired conditions for the relevant portion of the analysis area would not be authorized.

The identification of an area as suitable for various uses is *guidance* for project and activity decision making, and is *not a resource commitment or final decision* approving projects and activities. Final decisions on resource commitments are made at the project level.

- **Areas suitable for a particular use** – the particular use on these lands is compatible with the desired condition in the forest plan. This does not mean that the use would occur over the entire area.
- **Areas not suitable for a particular use** – the particular use on these areas is not compatible with the desired conditions of the forest plan. This does not mean that the use would not occur in specific areas.

Lands suitable for recreation use are those lands not restricted from recreation use by Presidential, Congressional or administrative constraints. The compatibility of these lands with Forest Plan desired conditions, objectives, and Recreation Opportunity Spectrum classes provide the basis for determining whether a use is suitable for a particular area. The starting point for the identification of lands as suitable is the existing suitability determination carried forward from current Forest Plan. Recreation suitability in the 1982 planning rule is based on the idea that uses are generally suitable unless determined otherwise. This is consistent with the basic philosophy that these are the people's lands, and therefore it is appropriate to have a presumption that lands are suitable for a variety of uses.

The following table reflects whether the management areas associated with each action alternative is suitable for summer or winter motorized and non-motorized recreation opportunities.

19673  
19674

**Table 190. Management areas suitable for summer and winter motorized and non-motorized recreation opportunities by action alternative**

Management Area – revised LMP	Summer Motorized	Summer Non-Motorized	Winter Motorized	Winter Non-Motorized
Backcountry – Alternatives R,P,B,O, Proposed Action and No Action <sup>3</sup>	Not Suitable	Suitable	Not Suitable	Suitable
Backcountry Motorized – Alternatives R,P,B,O, Proposed Action and No Action <sup>4</sup>	Suitable	Suitable	Suitable – Limited by wildlife habitat restrictions	Suitable
Focused Restoration – Alternatives P and Proposed Action	Suitable	Suitable	Suitable	Suitable
General Restoration – Alternatives R, P and Proposed Action	Suitable	Suitable	Suitable	Suitable
Late Forest Structure – Alternative R	Suitable	Suitable	Suitable	Suitable
Administrative and Recreation Sites – Alternatives R,P,B,O, Proposed Action and No Action	Suitable – site-specific decision	Suitable	Suitable – site-specific decision	Suitable
Riparian – Alternatives R,P,B,O, Proposed Action and No Action	Suitable	Suitable	Suitable	Suitable
National Scenic Trails – Alternatives R,P,B,O, Proposed Action and No Action	Not Suitable	Suitable	Not suitable	Suitable
National Recreation Trails – Alternatives R,P,B,O, Proposed Action and No Action	Suitable – if consistent with the purpose of the trail	Suitable	Suitable – if consistent with the purpose of the trail	Suitable
Research Natural Areas – Alternatives R,P,B,O, Proposed Action and No Action	Not Suitable	Suitable	Not Suitable	Suitable
Scenic Byways – Alternatives R,P,B,O and Proposed Action	Suitable	Suitable	Suitable	Suitable
Special Interest Area – Alternatives P,O	Suitable - if Consistent with the emphasis Of The SIA	Suitable	Suitable - if consistent with the emphasis of the SIA	Suitable
Wild & Scenic Rivers – Alternatives R,P,B,O, Proposed Action and No Action	Not Suitable - Wild Segment	Suitable	Not Suitable - wild segment	Suitable
Wilderness – Alternatives R,P,B,O, Proposed Action and No Action	Not Suitable	Suitable	Not suitable	Suitable
Recommended Wilderness – Alternatives R,P,B,O and Proposed Action	Suitable – if motorized use occurred prior to identification as recommended wilderness	Suitable	Suitable - if motorized use occurred prior to identification as recommended wilderness	Suitable

<sup>3</sup> The Backcountry MA aligns with the no-action alternative's Semi-Primitive Non-Motorized Recreation MA.

<sup>4</sup> The Backcountry Motorized MA aligns with the no-action alternative's Semi-Primitive Motorized Recreation MA.

Management Area – revised LMP	Summer Motorized	Summer Non-Motorized	Winter Motorized	Winter Non-Motorized
Old Growth Dependent Species Habitat – no-action alternative	Suitable – if habitat integrity is maintained	Suitable	Suitable – if habitat integrity is maintained	Suitable
Caribou Habitat – no-action alternative	Suitable – if habitat integrity is maintained	Suitable	Suitable – if habitat integrity is maintained	Suitable
Recreation – no-action alternative	Suitable in MA 3A and 3C; Not suitable in MA 3B	Suitable	Suitable in MA 3A and 3C; Not suitable in MA 3B	Suitable
Scenic/Timber – no-action alternative	Suitable	Suitable	Suitable	Suitable
Scenic/Winter Range – no-action alternative	Suitable – seasonal closures may be implemented	Suitable	Suitable – seasonal closures may be implemented	Suitable
Wood/Forage – no-action alternative	Suitable	Suitable	Suitable	Suitable
Winter Range – no-action alternative	Suitable – seasonal closures may be implemented	Suitable	Suitable – seasonal closures may be implemented	Suitable

## 19675 Motorized Recreation Trails

19676 The Colville National Forest offers a mixture of summer and winter motorized trail opportunities in a  
19677 variety of recreation settings. Motorized uses associated with both seasons are bound by direction in  
19678 the current Forest Plan, the 2005 Travel Management Rule, and wilderness regulations that prohibit  
19679 all motorized use in designated wilderness areas. Current Forest Plan language identifies where  
19680 motorized recreation use may not be authorized or may be limited for the protection of aquatic, plant  
19681 and wildlife habitats. In addition, summer motorized recreation use is also restricted to those routes  
19682 (roads and trails) identified on the Forest's current-year Motor Vehicle Use Map (MVUM) which  
19683 was developed in response to Subpart B of the 2005 Travel Management Rule. An over-snow  
19684 vehicle use map, pursuant to Subpart C of the 2005 Travel Management Rule has not been  
19685 completed on the Forest. At this time, no motorized cross-country travel is allowed on the Colville  
19686 National Forest except for over-snow vehicle travel, which is open to all areas not closed for  
19687 resource protection or for the protection of wilderness settings.

19688 Existing routes on the Colville's MVUM were identified through numerous collaborative public  
19689 meetings that included pro-motorized, neutral, and non-motorized interests. Many routes identified  
19690 by motorized users during the public meeting process were not opened to motorized use with the  
19691 publishing of the first MVUM in 2008, since many non-motorized users felt the routes would lead to  
19692 additional noise and resource damage and were opposed to their inclusion on the map. As a result,  
19693 the system of roads identified in 2008 for use by OHVs on the Forest was disjointed, provided few  
19694 loop riding opportunities, very few connections between the Forest and tourism-dependent  
19695 communities, and included numerous short out-and-back rides that have been seldom used. To date,  
19696 the system of OHV routes identified in 2008 remains unchanged across much of the forest except in

19697 the South End planning area (includes national forest lands between U.S. Highway 395 and State  
19698 Highway 20, generally south of the Little Pend Oreille Wildlife Refuge and north of the forest's  
19699 southern border) where a recent decision has improved opportunities for OHV loop rides and  
19700 connecting OHV users with communities and camping opportunities. Many community members  
19701 and county commissioners believe that a more cohesive OHV route system on the Forest would  
19702 bolster local economies through tourism income associated with motorized recreation. The split  
19703 between motorized and non-motorized interest groups is present not only in discussions involving  
19704 the National Forest, but also in discussions surrounding community trail systems.

19705 The Forest currently offers 181 miles of summer motorized trails. Approximately 97 percent  
19706 (177 miles) of those motorized trail miles are located on the Newport and Three Rivers Ranger  
19707 Districts; 1.4 miles are located on the Republic District and approximately three miles are located on  
19708 the Sullivan Lake District. Summer motorized trails make up 36 percent of the total summer trail  
19709 miles on the Forest, with motorcycle trails accounting for 66 percent of all motorized trail miles.

19710 OHV use is allowed on designated routes (mixed-use roads and trails) across approximately  
19711 82 percent of the Forest. Mixed-use roads open to OHV use includes 684 miles (31 percent) out of  
19712 the 2,206 miles of road that are open to highway legal vehicles across the forest. OHV use on trails  
19713 located in a motorized backcountry setting is allowed on approximately 5 percent of the Forest,  
19714 which equals 22 percent of the Forest's total (including motorized and non-motorized) backcountry  
19715 acres. No cross-country OHV use is allowed on the Forest. Three motorized mixed-use roads  
19716 connect with the Little Pend Oreille OHV trail system which provides some additional loop riding  
19717 opportunities. No motorized mixed-use roads connect with the Owl Mountain, Thompson Ridge,  
19718 Mack King, Twin Sisters, US Mountain, Batey-Bould, Middle Fork Calispell, or South Huckleberry  
19719 OHV trail systems.

19720 Trails designed specifically for motorcycle use are centered on the Little Pend Oreille and Batey-  
19721 Bould ORV areas. Both of these systems are popular with intermediate to advanced riders and offer  
19722 limited terrain for beginners. The Forest supports two small ATV trail systems that do not meet the  
19723 desired riding distance and loop requirements of most ATV users. These trails are typically used by  
19724 nearby campers and local residents looking for short beginner rides. In addition, the Forest has seven  
19725 jeep trails located in the eastern foothills of the Kettle Crest that are open to all vehicles. These trails  
19726 are popular with intermediate to advanced drivers. However, their use is limited because they are not  
19727 part of a legal loop riding opportunity for non-highway legal vehicles. These trails do not connect  
19728 with motorized mixed-use roads, so trail users are required to go out and back or return to their  
19729 starting points illegally on roads open to highway legal vehicles only. Unlike the majority of the  
19730 motorcycle and ATV trails which meander through the working front-country terrain of the Forest,  
19731 these jeep trails traverse through the higher elevation ridgelines of four of the Forest's potential  
19732 wilderness areas. As a result, these jeep trails provide motorized access into some of the best  
19733 unaltered and roadless landscapes the Colville National Forest has to offer and their presence in these  
19734 potential wilderness areas has resulted in conflict between motorized users and wilderness  
19735 proponents.

19736 The Forest offers a groomed winter over-snow vehicle trail system that can be used by riders of all  
19737 skill levels. This system of groomed trails has been scaled back over the past ten to fifteen years as a  
19738 result of decreased funding at both the Forest and State levels. Snowmobile trails can be found on  
19739 every District of the Forest and are located almost exclusively on existing Forest System roads.  
19740 These trails are maintained and groomed through partnerships with local grooming councils which  
19741 include representatives from the local Counties, snowmobile clubs, and contracted groomer  
19742 operators. Funding for grooming is provided through State grants. Winter trails are also limited to  
19743 those routes and areas that are not closed for the protection of aquatic, plant, and wildlife habitats or  
19744 for the protection of wilderness settings. Cross-country over-snow vehicle use is currently allowed  
19745 across the forest except in wilderness, semi-primitive non-motorized management areas, research

19746 natural areas, and designated winter range. In a few key areas, such as the power line corridor over  
19747 Sherman Pass, increased use by backcountry skiers and snowmobilers has resulted in some conflict  
19748 between the two groups of users.

## 19749 Non-motorized Trails

19750 According to the Forest's 2009 NVUM survey data, non-motorized trail use is still one of the most  
19751 popular recreational activities on the Forest with survey respondents indicating that just over  
19752 37 percent participated in hiking/walking, bicycling, backpacking, horseback riding or a combination  
19753 of these activities. These activities are listed in order of popularity on the Forest. In addition, data  
19754 reflected in the 2002 Washington State Comprehensive Outdoor Recreation Planning report shows  
19755 that walking and hiking are the most popular recreation activities in the state and that over 50 percent  
19756 of the people who responded prefer mountain-forest trails over city sidewalks.

19757 Non-motorized trails (approximately 319 miles) make up 64 percent of summer trail miles on the  
19758 Forest and accommodate uses such as hiking, mountain biking, and stock use. Most of the Forest's  
19759 non-motorized trail miles can be found along the Kettle Crest and within the Salmo-Priest  
19760 Wilderness Area. The remaining trails are scattered around various recreational lakes and in  
19761 backcountry settings located across the Forest. Most of these trails are located in mid to high  
19762 elevation terrain, which generally limits their use to the summer and fall months. However, there are  
19763 a couple of lower elevation trail systems located just outside of Newport and Republic that are  
19764 popular in the spring and late fall due to their easy access and limited snow cover.

19765 Trail use on the Forest is dominated by day-hikers. Those overnight hikers the Forest does receive  
19766 tend to use the trail systems along the Kettle Crest and those within the Salmo-Priest Wilderness.  
19767 There are few non-motorized loop trails on the Forest. As a result, those trails that do create a loop  
19768 tend to receive much higher use than those trails that are simple out-and-backs or require a shuttle  
19769 vehicle. This can lead to the perception of crowding on some trails during summer weekends.

19770 Most non-motorized trails on the Forest (81 percent) were designed for pack and saddle stock use  
19771 and continue to be maintained for that use. Only 3 percent of the trail system is designed and  
19772 managed for mountain bikes with the remaining 16 percent designed and managed for hikers. Most  
19773 of the Forest's summer non-motorized trails are open to all types of users which has led to some  
19774 conflict between mountain bikers and equestrian users, but generally, the two groups tend to get  
19775 along and have partnered in trail maintenance projects in the past. However, for safety reasons,  
19776 interpretive trails, trails entering or leaving developed campgrounds, and some lakeshore trails are  
19777 only open to hikers.

19778 Winter non-motorized trail use is concentrated around the five cross-country ski trail systems that are  
19779 located across every District on the Forest except for Sullivan Lake. The five trail systems receive  
19780 regular grooming through either a private contractor or Forest Service personnel. Funding for  
19781 grooming is provided primarily through State grants. The permit holder for the 49 Degrees North  
19782 Mountain Resort is responsible for grooming their Nordic ski trail system. Winter trails are limited  
19783 on the Colville National Forest due to lynx habitat in the higher elevations (no additional groomed  
19784 routes are allowed in designated lynx habitat) and inconsistent snow conditions in the lower foothills  
19785 and valleys. The Forest's five cross-country ski areas are located in a variety of settings including  
19786 high elevation ridgelines, lake basins, and rolling forested foothills. These areas experience moderate  
19787 use when snow conditions are good. Due to the availability of cross-country ski areas closer to  
19788 Spokane, the Forest's trail system is primarily used by local residents, which keeps crowding to a  
19789 minimum given the limited amount of trail miles (40) the Forest has to offer.

19790 **Access**

19791 Three broad concerns drove the need to address road density: (1) the Forest is no longer able to  
19792 afford to properly maintain its road system at current operational maintenance levels, (2) the current  
19793 road system is not aligned with current and future resource management objectives, and (3) the  
19794 existing road management direction is confusing and difficult to follow because it is scattered  
19795 throughout the current Forest plan, forest plan amendments (Regional Forester's Forest Plan  
19796 Amendment #2 [Eastside Screens], Interim Inland Native Fish Strategy for the Intermountain,  
19797 Northern, and Pacific Northwest Regions [INFISH, USDA Forest Service 1994c and 1995], national  
19798 level decisions (the Roadless Rule), and interim policy (e.g., Grizzly Bear No-Net-Loss, Lynx  
19799 Conservation Assessment and Strategy, The Interior Columbia Basin Strategy).

19800 The Forest's open road network is critical to the recreational use of National Forest System lands.  
19801 Regardless of the type of recreation activity being sought, nearly all forest users access that activity  
19802 with a vehicle. Therefore, each time a road is closed or decommissioned due to a lack of funding or  
19803 for the benefit of other resource areas (i.e., fisheries or water quality); there is a potential loss of  
19804 motorized access to a variety of recreation opportunities and settings. Likewise, most roads heavily  
19805 used for recreation on the Forest are also located along some of the more sensitive riparian areas  
19806 within the Forest which can lead to complicated decisions with tradeoffs between social needs and  
19807 resource needs.

19808 In order to provide the public with a spectrum of high quality, nature-based recreational settings and  
19809 opportunities that access the various biological, geological, scenic, cultural, and experiential  
19810 resources of the Forest, the Forest must first provide a safe and appropriate level of motorized access  
19811 to those opportunities and settings. As part of the process in determining what an appropriate road  
19812 system might look like on the Colville National Forest, the Forest developed a Travel Analysis  
19813 Report pursuant to Subpart A of the 2005 Travel Management Rule. This process required Forest  
19814 recreation managers to rank each authorized road on the Forest according to its value to the  
19815 recreation program. Likewise, other resource specialists (such as wildfire suppression, range  
19816 management, fisheries, wildlife, soil, plant, and hydrology) also provided a ranking on each road.  
19817 The Forest's Travel Analysis would be utilized to help inform decision makers of potential trade-offs  
19818 associated with all future road planning decisions on the Forest. The Travel Analysis Report does not  
19819 consider unauthorized roads or user created routes. These routes are currently closed to use through  
19820 the MVUM and can be decommissioned as funding allows.

19821 The Colville National Forest's existing road system currently provides adequate access to the Forests  
19822 numerous recreational opportunities. With the new Forest plan, there is a need to ensure that the  
19823 Forest continues to have an access system of authorized roads that is safe, affordable, and  
19824 environmentally sound, that meets obligations to private cooperators, is efficient to manage, and  
19825 provides adequate access to recreation settings and opportunities.

19826 **Dispersed Recreation**

19827 Dispersed recreation includes a variety of activities that occur in almost every type of setting  
19828 available on the Forest. Primary activities include camping at undeveloped campsites, berry and  
19829 mushroom picking, hunting, fishing, boating, wildlife viewing and sightseeing. Generally, these  
19830 activities require little in the form of management other than quality signing, physical barriers where  
19831 needed to limit motorized use, and a system of roads (see previous discussion) that provides  
19832 adequate access into and through the forest. One exception is the need for fishing and boat docks  
19833 where lake terrain makes access to a quality opportunity difficult. In recent years, the Forest has  
19834 invested in several new boat and fishing docks to improve the access to and use of several lakes  
19835 across the Forest.

Most dispersed camping on the Forest occurs in riparian areas along lakeshores, streams and rivers. Many of the most popular dispersed campsites have been used for generations and are important to the families that have camped there for years; the campsite, activities, and setting are part of their custom and history. However, many of these sites are showing signs of resource degradation due to overuse. The Forest needs to continue to provide dispersed camping opportunities in their traditional settings while correcting existing resource damage and protecting these sites into the future.

## Recommended Wilderness

When a forest plan is revised, the 1984 Washington State Wilderness Act requires the Forest Service to review, evaluate and determine whether inventoried roadless areas should be submitted to Congress for consideration as recommended wilderness.

In the summer of 2005, the forest plan revision team for the Colville and Okanogan-Wenatchee National Forests began the process of evaluating inventoried roadless areas with the help of interested members of the public. Although inventoried roadless areas are evaluated for potential wilderness, it does not necessarily mean that the inventoried roadless area would automatically become (or not become) a new wilderness area. It is an evaluation process, not a final decision on designation. Only Congress can designate additional wilderness.

The forest plan revision team for the Colville and Okanogan-Wenatchee National Forests used inventory criteria from the Forest Service Handbook (FSH 1909.12 Chapter 70) to evaluate roadless areas for potential wilderness. In order to qualify for placement on the potential wilderness inventory, an inventoried roadless area has to meet either criteria 1 and 3, or criteria 2 and 3 below:

1. Areas contain 5,000 acres or more.
2. Areas contain less than 5,000 acres, but can meet one or more of the following criteria:
  - a. Areas can be preserved due to physical terrain and natural conditions.
  - b. Areas are self-contained ecosystems, such as an island, that can be effectively managed as a separate unit of the National Wilderness Preservation System.
  - c. Areas are contiguous to existing wilderness, primitive areas, Administration-endorsed wilderness, or potential wilderness in other Federal ownership, regardless of their size.
3. Areas do not contain forest roads (36 CFR 212.1) or other permanently authorized roads.

The first step the forest plan revision team took in the evaluation process was to use the inventory criteria to validate the boundaries of the 2001 Roadless Rule inventory of roadless areas. Beginning in the summer of 2005, the forest plan revision team asked the public to participate in the review of inventoried roadless area boundaries through a series of public meetings, web site postings, and electronic and hard copy mailings/newsletters. The public provided the forest plan revision team with input, which the Forest Service validated. Then the forest plan team made adjustments to the inventoried roadless area boundaries based on a given area's current condition.

After the 2001 Roadless Rule inventory of roadless areas was validated, the forest plan revision team worked to identify if any additional roadless areas existed on the Forest that were not part of the 2001 Roadless Rule inventory. In 2008, the forest plan revision team asked the public to participate in a series of public meetings to help identify additional roadless areas. The public once again provided the forest plan revision team with input that resulted in seven areas being identified that met the criteria in FSH 1909.12 Chapter 70 for placement on the potential wilderness inventory. The forest plan revision team continues to collect input from the public on potential boundary additions and deletions to the Forest's PWAs. Prior to the release of the Final Environmental Impact Statement for the Colville Forest Plan, the boundaries for the PWAs that would be taken forward as



19881 recommended wilderness in the Preferred Alternative would be ground verified and adjusted in the  
19882 Forest's Geographic Information System.

19883 The second step the forest plan revision team took in the evaluation process was to carefully evaluate  
19884 each validated roadless area as additions to the National Wilderness Preservation System. An area  
19885 recommended as suitable for *wilderness must meet the tests of capability, availability, and need*. In  
19886 addition to the inherent wilderness quality it possesses, an area must provide opportunities and  
19887 experiences that are dependent upon or enhanced by a wilderness environment and the Forest  
19888 Service should have the ability to manage the area as wilderness.

19889 The result of this two-step process was an individual wilderness evaluation report for all 21 PWAs  
19890 located on the Forest detailing each PWAs contribution to the evaluation factors of capability,  
19891 availability, and need. All of the PWAs were determined capable of meeting the handbook definition  
19892 of wilderness, though on a sliding scale. Wilderness capability was impacted by existing  
19893 developments, vague boundaries, geographic shape, and impacts from sights and sounds of human  
19894 activities. Availability as wilderness was influenced by existing recreational activities that would be  
19895 displaced, existing mineral interests, the wildland urban interface, and the need for ecosystem  
19896 maintenance. Analysis determined the greater Spokane metropolitan area is under-served for  
19897 wilderness recreation due to not having any wilderness within a 1- to 2-hour drive and that several  
19898 PWAs on the Forest offer high contributions to the wilderness system based on the Need factors  
19899 (recreation, refugia, and preserving landform and underrepresented ecosystems) given in the  
19900 handbook.(U.S. Forest Service 2010)

19901 The project file for the Colville National Forest plan revision contains the wilderness evaluation  
19902 reports for each potential wilderness area identified on the Forest.

19903 Any potential wilderness area recommended to Congress is managed to preserve those wilderness  
19904 characteristics that made it a candidate for wilderness until Congress chooses to take action.

19905 Currently, there is no existing recommended wilderness on the Forest. The evaluation for possible  
19906 wilderness recommendation identified 21 potential wilderness areas (PWAs) on the Colville National  
19907 Forest that covers an additional 21 percent of the Forest's land base. Several of these PWAs contain  
19908 low-standard roads and signs of past timber harvest. In addition, the Profanity PWA contains an  
19909 historic fire lookout, while the Bald-Snow PWA contains a recreation rental cabin (Wilderness  
19910 Evaluations 2009b).

19911 The evaluation process for identifying PWAs indicated that designated wilderness was under-  
19912 represented in the Okanogan Highlands ecoregion on National Forest System lands in Region 6. The  
19913 Okanogan Highlands ecoregion is a landform province characterized by moderate slopes with broad  
19914 rounded summits resulting from repeated continental glaciation and the broader valley bottoms are  
19915 characterized by outwashed terraces. (Wilderness Evaluations 2009b) All of the PWAs on the Forest  
19916 are located in the Okanogan Highlands ecoregion. The wilderness evaluation process also identified  
19917 that trade-offs exist between the recreation need for additional wilderness and the public's desire to  
19918 maintain existing backcountry motorized and mechanized recreation opportunities and the use of an  
19919 existing backcountry rental cabin and an historic fire lookout.

19920 **Developed Recreation**

19921 Developed recreation areas on the Colville National Forest include a suite of opportunities and  
19922 locations such as: interpretive and historic sites, scenic overlooks, information centers, trailheads,  
19923 improved dispersed camping areas, rental cabins and lookouts, sno-parks, boat launches, picnic  
19924 areas, campgrounds, and designated swim areas. In general, a developed recreation site is any place  
19925 on the forest where funds have been spent to improve the site for the visitor's convenience and to  
19926 protect the natural resources associated with the site. The Colville National Forest offers all of the

19927 above types of recreation sites, with many of them located along primary Scenic Byways or  
19928 recreation lakes.

19929 Many of the Forest's developed recreation sites have been upgraded (new toilets, tables, grills, and  
19930 signs) over the past 10 to 15 years. However, the majority of sites are not fully accessible for those  
19931 visitors with mobility impairments and only about half can easily accommodate modern recreational  
19932 vehicles due to limited road widths and turning radii or restricted parking area widths and lengths.  
19933 Some existing sites are past their predicted life expectancy and are in need of rehabilitation and in  
19934 some cases, reconstruction. In addition, the only developed group camping opportunities on the  
19935 Forest are located the furthest (Sullivan Lake and Republic) from northeast Washington's primary  
19936 population center of Spokane. Regardless of these shortcomings, most visitors to the Forest use one  
19937 or multiple developed recreation sites during their stay. While some sites (campgrounds and day-use  
19938 areas) can be full on certain summer weekends, typically, use is adequately being met across the  
19939 Forest with the current number of existing developed recreation sites. Based on changing  
19940 demographics, there may be a need to develop additional group use sites, day-use areas, and  
19941 trailheads closer to Spokane over the next 10 to 20 years.

#### 19942 Recreation Special Use Permits

19943 The Colville National Forest administers a variety of permits for recreation special uses including  
19944 recreation residences, ski areas, recreation events, outfitter/guides and campground concessionaires.  
19945 Permit activities are located across the Forest and occur throughout the year.

19946 The Forest's recreation residence program is centered around four tracts of homes located on  
19947 Sullivan Lake. An isolated single cabin is also located on Bead Lake. These cabins are privately  
19948 owned and are situated on leased lots located on National Forest System Lands. Appraisals and  
19949 consistency reviews were completed on these permits in the mid to late 2000 era along with the  
19950 requirements contained in the Cabin User Fee Fairness Act of 2000. As a result, new 20-year permits  
19951 have been recently issued to the owners of these cabins which should extend well into the next Forest  
19952 Plan implementation cycle.

19953 The Forest administers one ski resort permit. This permit includes groomed downhill as well as  
19954 cross-country skiing and a limited amount of summer uses such as mountain biking, huckleberry  
19955 picking and other special events. The resort has recently opened a new lift and summit and is in the  
19956 process of implementing its current master development plan. A new master development plan may  
19957 need to be developed for the resort during the next 5 to 10 years to keep up with changing trends in  
19958 summer and winter use.

19959 Recreation event permits are issued to private organizations that choose to utilize the national forest  
19960 for one-time or recurring activities. On the Colville National Forest, these activities frequently  
19961 include trail rides, both motorized and non-motorized as well as summer and winter, but have also  
19962 been associated with foot races and triathlons. These types of special uses are expected to continue  
19963 into the future with slight fluctuations in the number and type of events from year to year.

19964 The Colville National Forest has only recently begun to administer outfitter/guide (O/G) special use  
19965 permits. The first temporary special use permit for outfitting and guiding was signed in 2009. The  
19966 Forest currently has six O/G permits that provide services including archery and rifle hunting,  
19967 kayaking, snow shoeing/cross-country skiing, and horse riding on backcountry trails. The Forest has  
19968 recently completed the environmental analysis to add motorized and overnight uses to the list of  
19969 services provided by our outfitter/guides. It is anticipated, based on requests by our current outfitters,  
19970 that snowmobiling, OHV riding, and overnight stock camps would all become authorized uses in the  
19971 near future. Additional requests for unknown and unique outfitter or guide opportunities may also be  
19972 received in response to changing public recreational interests in the future. In general, the Forest

19973 expects to see growth in the number of authorized O/G permits as well as the number and complexity  
19974 of activities authorized by those permits over the next 10 to 20 years.

19975 One campground concessionaire permit is administered on the Forest that includes fee campgrounds  
19976 on the Newport and Sullivan Lake Ranger Districts as well as the four campgrounds located on the  
19977 Little Pend Oreille Chain of Lakes on the Three Rivers Ranger District. This permit allows a private  
19978 company to operate and maintain fee-based recreation sites on the Forest in exchange for retaining  
19979 all fees collected at those sites. The current 5-year permit was issued in 2013, and is renewable for an  
19980 additional 5-year term in 2018 if the operation and maintenance standards required by the permit are  
19981 met and fees to the government are paid in a timely manner by the management company.  
19982 Administration of campground concessionaire permits is unlikely to change over the next 5 to  
19983 10 years and the Forest does not expect to add sites to the existing concessionaire permit.

## 19984 **Wilderness**

19985 Wilderness areas are managed according to the Wilderness Act of 1964 which protects their  
19986 wilderness values. Wilderness areas provide outstanding opportunities for solitude or a primitive and  
19987 unconfined type of recreation. They also provide wildlife habitat and a variety of natural resource  
19988 and social values. Motorized and mechanical equipment use is prohibited in wilderness. Livestock  
19989 grazing is allowed in wilderness areas, unless specifically excluded by the law designating the area.

19990 The 43,348 acre **Salmo-Priest Wilderness** (31,400 acres of which is located on the Colville National  
19991 Forest) was designated by Congress in 1984 as part of Public Law 98-339, The Washington State  
19992 Wilderness Act of 1984. The Salmo-Priest is the only designated wilderness area located in the State  
19993 of Washington east of the Cascade Mountains and is located entirely in Washington State. However,  
19994 only 72 percent of the wilderness is managed by the Colville National Forest; the remaining 28  
19995 percent (the far eastern side—part of the Kaniksu National Forest) is administered by the Idaho  
19996 Panhandle National Forest. The Salmo-Priest Wilderness also contains the Salmo and Roundtop  
19997 Research Natural Areas. Grazing is not allowed in the Salmo-Priest Wilderness because no  
19998 authorized grazing was permitted in the area at the time it was designated.

19999 The Salmo-Priest Wilderness is a narrow (generally 2 to 3 miles wide) U-shaped body of land that  
20000 borders Idaho and British Columbia, Canada. The area receives considerable precipitation (50+  
20001 inches annually) which helps support the largest growth of virgin forest left in eastern Washington  
20002 including western red cedar, western hemlock, Douglas-fir, grand fir and larch. In addition, the  
20003 Salmo-Priest Wilderness supports a variety of wildlife, including the threatened and endangered  
20004 woodland caribou, grizzly bear and gray wolves.

20005 The Salmo-Priest is easily accessed by roads that lead to eight trailheads located on land  
20006 administered by the Colville National Forest. Feeder trails access the two predominant ridge trails  
20007 that traverse through the wilderness along both the west and east ridgelines. Visitor use in the Salmo-  
20008 Priest is generally light, with peak use occurring on weekends between mid-July and Labor Day  
20009 weekend.

## 20010 **Nationally Designated Roads and Trails**

20011 The Colville National Forest is accessed by three Scenic Byways including the Sherman Pass Scenic  
20012 Byway, the North Pend Oreille Scenic Byway, and the International Selkirk Loop. Access deeper into  
20013 the Forest can be accomplished through the congressionally designated Pacific Northwest National  
20014 Scenic Trail and four National Recreation Trails including the Kettle Crest, Lakeshore, Pass Creek-  
20015 Grassy Top, and Shedroof Divide National Recreation Trails. These designations help draw a

- 20016 national and international audience to the Forest. In many cases, these designated roads and trails  
20017 receive some of the heaviest recreation use on the forest.
- 20018 **The Sherman Pass Scenic Byway** was designated as a Washington State Scenic Byway in 1967,  
20019 and as a National Forest Scenic Byway in 1990. Between 2002 and 2009, over \$2 million was  
20020 invested in new and existing recreation facilities along the Byway, including a Regional Information  
20021 Center located in Kettle Falls. All of the byway amenities are managed by the Forest Service except  
20022 for the West (City of Republic) and East (Sherman Creek Wildlife Recreation Area) Gateways and  
20023 the Kettle Falls Regional Information Center.
- 20024 **The North Pend Oreille Scenic Byway** was designated as a Washington State Scenic Byway in  
20025 1993. The byway corridor is managed by the Washington State Department of Transportation and  
20026 provides excellent access to Colville National Forest recreation opportunities located along the Pend  
20027 Oreille River, Sullivan Lake, and within the Selkirk Mountains including numerous backcountry trail  
20028 and wildlife viewing opportunities.
- 20029 **The International Selkirk Loop** was designated as an All-American Road in 2005, making it one of  
20030 only 31 national scenic byways in the United States (as of 2010) to receive that designation. This  
20031 280-mile loop (including state highways in Idaho and Washington and provincial highways in British  
20032 Columbia, Canada) around the Selkirk Mountains provides easy access to the numerous national  
20033 forest recreation opportunities on the Newport and Sullivan Lake Ranger Districts. Several side  
20034 loops off the main Selkirk Loop provides additional opportunities to explore less traveled portions of  
20035 the Forest. This byway provides visitors with excellent opportunities for year-round recreation access  
20036 to the Forest.
- 20037 **The Pacific Northwest National Scenic Trail (PNT)** was designated by Congress in the 2009  
20038 Omnibus Public Land Management Act and extends 1,200 miles from Glacier National Park in  
20039 Montana to the Pacific Ocean. Approximately 197 miles of the PNT runs through the Colville  
20040 National Forest and private lands from the Washington/Idaho border west to the Forest's boundary  
20041 with the Okanogan/Wenatchee National Forest. Several sections of the PNT use existing trails on the  
20042 Forest, such as the Kettle Crest National Recreation Trail, the Abercrombie Mountain Trail, and the  
20043 Shedroof Divide National Recreation Trail. In some areas, the Congressionally designated location  
20044 for this non-motorized trail overlays State, County and Forest System roads, undeveloped areas  
20045 where no current trail exists, as well as areas where minor route refinements may be necessary due to  
20046 other considerations (such as the crossing of the Pend Oreille River at Boundary Dam.)
- 20047 The Forest Service is the lead agency for administration of the PNT and is currently in the process of  
20048 assembling a planning team comprised of agency personnel and an advisory council made up of  
20049 interested members of the public that would work together collaboratively to develop the  
20050 Comprehensive Plan for the PNT. The final location of the PNT would be determined when its  
20051 legislatively mandated Comprehensive Plan is finalized (estimated completion date of 2018).  
20052 Therefore, sections of the PNT (as shown on the alternative maps) are likely to change upon  
20053 completion of the PNT's Comprehensive Plan. Forest Plan direction for the National Scenic Trail  
20054 Corridor management area would apply to the most current location of the trail as determined by the  
20055 Comprehensive Plan and published in the Federal Register.
- 20056 Once the Comprehensive Plan for the trail is complete, work would start to identify trail routes  
20057 where none exist and to move the trail off its existing road alignments. The trail is open to non-  
20058 motorized uses. However, mountain bikes are not allowed on sections of the trail where their use is  
20059 otherwise prohibited, such as in designated wilderness. In addition, motorized uses are allowed on  
20060 the sections of trail currently located on open national forest system roads

20061 **The Kettle Crest National Recreation Trail** is a 44-mile trail located along the top of the Kettle  
20062 River Range Mountains and traverses through the Bald-Snow and Profanity Potential Wilderness  
20063 Areas. This non-motorized trail was designated in 1979, and provides access to outstanding regional  
20064 views, an historic fire lookout, a backcountry cabin, and excellent winter cross-country touring  
20065 opportunities. Primary users include hikers, stock, mountain bikers, and skiers.

20066 **The Lakeshore National Recreation Trail** extends 4.3 miles along the shoreline of Sullivan Lake  
20067 between two popular campgrounds. The trail was designated in 1978, and provides excellent views  
20068 of the lake and opportunities for wildlife observation, including resident bighorn sheep from April  
20069 through mid-June. The trail is open to all non-motorized uses.

20070 **The Pass Creek-Grassy Top National Recreation Trail** extends just under eight miles along the  
20071 hydrologic divide between the Colville National Forest and the Kaniksu National Forest, which is  
20072 administered by the Idaho Panhandle National Forest. The trail was designated in 1981, and passes  
20073 through numerous alpine meadows on the way up to the top of Grassy Top Mountain, which  
20074 provides excellent views into north Idaho and eastern Washington. The trail is open to all non-  
20075 motorized uses.

20076 **The Shedroof Divide National Recreation Trail** extends over 29 miles (22 miles on the Forest)  
20077 through the heart of the Salmo-Priest Wilderness. The trail was designated in 1981, and offers  
20078 spectacular views of the wilderness and Selkirk Crest. The trail is well-suited to overnight trips and  
20079 is open to non-motorized and non-mechanized modes of travel.

#### 20080 Eligible Wild and Scenic Rivers

20081 Eligible rivers were identified during the planning effort associated with the 1988 Colville National  
20082 Forest Land and Resource Management Plan. The existing Colville Forest Plan initially identified  
20083 one eligible river—the Kettle River. An appeal of the 1988 Plan by American Rivers, Inc. was filed  
20084 based on the Forest's failure to document the process that was used to evaluate rivers for Wild and  
20085 Scenic River eligibility during the development of the 1988 forest plan. In order to meet the legal  
20086 requirements and terms of the Forest's agreement with American Rivers, the Colville National  
20087 Forest assembled an interdisciplinary team in 1990 to reexamine all rivers on the Forest and clearly  
20088 document the process it used for screening and evaluating Wild and Scenic River eligibility.  
20089 Direction for the assessment process came from the Forest Service Land and Resource Management  
20090 Planning Handbook Section 8.2 (dated July 1987) and a draft Preliminary River Value Identification  
20091 Process Paper date November 22, 1989. All documentation on the process can be found in the project  
20092 file located in the Colville National Forest's Supervisor's Office located in Colville, Washington.

20093 The following process was used to identify rivers that would be assessed for wild and scenic river  
20094 eligibility:

- 20095 1. It was first determined that the entire forest was located within the "Columbia River and  
20096 Tributaries" region which includes all of eastern Washington and a southern portion of  
20097 western Washington. The watersheds within the forest were then divided according to their  
20098 water resource council hydrologic unit codes.
- 20099 2. In each watershed, all class 1 and 2 streams and a few of the larger class 3 streams were  
20100 selected for further evaluation. Most class 3 and all class 4 streams were not included due to  
20101 factors such as low flows, intermittent flow and short length.
- 20102 3. All stream segments left the forest boundary as named streams. For instance, if a north and  
20103 south fork of a stream joined within the forest, they could be evaluated together. If two forks  
20104 entered the forest separately, they were evaluated separately.

After the initial screening process was completed, the remaining rivers were assessed by a core team of resource specialists that included a wildlife biologist, silviculturist, hydrologist, archaeologist, landscape architect, soil scientist, recreation planner, ecologist, planning team leader, resource forester, district ranger, resource assistant, and forestry technician. The team was comprised of Forest specialists and at least one representative from each ranger district. The recreation planner met with each resource specialist individually to gather information on the value of each river resource specifically identified for assessment in the Wild and Scenic Rivers Act including: scenic, recreational, geologic, fish and wildlife, historic, pre-historic and other similar values (botanic, ecological and hydrologic). Once the river resource values were identified, the team met several times over a 4-month period to assess the ratings, reach consensus on the ratings, and document the basis for which each specific river was dropped from consideration. Additional input was solicited from the Kalispel, Colville, Spokane, and Kootenai Tribes, the State Historic Preservation Office, Bureau of Land Management, National Park Service, and Washington Department of Wildlife.

The result of this secondary assessment was that a 5-mile stretch of the South Fork Salmo River was determined to be eligible for classification as a wild river under the Wild and Scenic Rivers Act. No changes have occurred to the free-flowing nature or outstandingly remarkable values associated with the Kettle and South Fork Salmo Rivers since being identified as eligible wild and scenic rivers in 1988 and 1990, respectively.

Suitability studies have not been undertaken on either of the two rivers eligible for possible inclusion in the National Wild and Scenic River System.

**Table 191. Eligible wild and scenic rivers on the Colville National Forest**

River Name	Outstandingly Remarkable Values	Recommended Classification	Length in Miles	Eligible or Suitable Status
South Fork Salmo River	Fishery Ecological	Wild	5	Eligible
Kettle River	Recreation Scenery	Recreational	3	Eligible

## Environmental Consequences

### Methodology

#### Assumptions

- Assume that recreation budget levels would continue along current trend lines, excluding fiscal years (FY) 2008 to 2013 when the Forest's recreation budget was increased under the Proof of Concept budget model (FY13 was increased by the RO as part of a 3-year phase-in of the SBO budget model) by 21 percent over the average of fiscal years 2005 to 2006, and by 44 percent over the average of fiscal years 2007 and 2014. Future budget levels may vary by 20 percent plus or minus in addition to the 21 to 44 percent reduction which has already occurred as a result of switching from the Proof of Concept budget model to the Region's Strategic Budget Objectives budget model.
- The effects for recommended wilderness are based on the assumption that the recommended wilderness areas would be designated as wilderness by Congress.
- Assume that trails leading directly into recommended wilderness would not be open to motorized or mechanized uses if the recommended wilderness was designated as wilderness.

- 20141 • Assume that motorized trails located in recommended wilderness areas would be converted  
20142 to non-motorized trails.
- 20143 • Assume that based on predicted budget levels, trail and recreation site construction and  
20144 reconstruction could be limited over the life of this plan.
- 20145 • Roads open to various forms of motorized recreation (motorized mixed-use) under the  
20146 current year Motor Vehicle Use Map would continue to be open to those uses. For purposes  
20147 of analysis, these routes were not considered to be part of the Forest's motorized trail system.  
20148 Only the trails listed in the INFRA database were considered when completing the analysis  
20149 for effect to motorized trails.
- 20150 • Motorized trail use would not be allowed in backcountry management areas, research natural  
20151 areas, or designated wilderness areas. Motorized trail use would only be allowed in  
20152 recommended wilderness management areas (Jackknife, Lost Creek, Owl Mountain, South  
20153 Huckleberry, and Twin Sisters) where motorized trail use currently exists under the 1988  
20154 Colville National Forest Land and Resource Management Plan.
- 20155 • Most dispersed camping occurs within close proximity of forest system roads, lakes, and  
20156 streams.
- 20157 • In spite of the large expanse of undeveloped area available for dispersed recreation use (both  
20158 motorized and non-motorized), not every acre is suitable for every use.
- 20159 • All acreage figures are approximate. They were calculated using the most current data  
20160 available in the Colville National Forest's Geographic Information System (GIS) database.
- 20161 • The acres shown as suitable for future consideration of motorized use areas and motorized  
20162 trail development do not reflect site-specific resource concerns such as slope, soils, heritage  
20163 resources, etc. that would be addressed in project-level analyses.
- 20164 • The acres shown as suitable for future consideration of mechanized and non-motorized  
20165 travel do not reflect site-specific resource concerns such as slope, soils, heritage resources,  
20166 etc. that would be addressed in project-level analyses.
- 20167 Visitors to the forest have different preferences for their recreation setting and the activities in  
20168 which they want to participate. These differences and preferences range from highly intensive  
20169 uses that have lasting effects on resources to benign uses that are barely discernible on the  
20170 ground. Recognizing the differences in user preferences, the primary goal of managing outdoor  
20171 recreation is to provide an environment or opportunity in which visitors can have a satisfying  
20172 experience, while protecting the natural and cultural resources integral to that experience.  
20173 Because user preferences are so diverse, it is assumed that not all user preferences can be  
20174 accommodated on every acre of the Colville National Forest.
- 20175 • Recreation demand on the Colville National Forest is tied to population changes in the  
20176 communities and larger metropolitan areas of northeast Washington, northern Idaho, and  
20177 southern British Columbia, Canada.
- 20178 • Wilderness, backcountry (semi-primitive non-motorized), research natural areas, big-game  
20179 winter range, recommended wilderness, National Scenic Trail, and special interest area  
20180 (except for the Kettle Crest SIA) management areas were used to identify those acres under  
20181 each alternative that were closed or could be closed to over-snow vehicle use. For winter  
20182 range, the entire management area was considered to be closed to over-snow vehicle use  
20183 regardless of the percentage of the area that was closed to use by gates or Forest closure  
20184 orders.

## *Methods of Analysis*

Analysis was completed utilizing information contained in the Forest's GIS and INFRA databases, current field data and literature.

## **Incomplete and Unavailable Information**

No incomplete or unavailable information was identified relating to recreation resources.

## **Spatial and Temporal Context for Effects Analysis**

The affected environment for effects includes the lands administered by the Colville National Forest. This analysis covers the life of the forest plan, which is 10 to 15 years.

## **Summary of Effects**

Winter over-snow vehicle recreation opportunities on groomed and non-groomed designated routes would remain the same across all alternatives. Designated groomed and non-groomed over-snow vehicle trail opportunities would not change as a result of the number of acres associated with recommended wilderness, backcountry, or backcountry motorized management areas since the Forest's existing over-snow vehicle designated groomed and non-groomed trail system is located almost entirely on National Forest System roads, outside of these management area boundaries. Where management activities, specifically vegetation treatments, must occur during the winter months, short to intermediate closures of designated trails may occur to allow for winter haul. This would result in localized displacement of over-snow vehicle users to other trails located on the forest or to trails located on neighboring forests. However, thinned areas may attract additional over-snow vehicle users when treatments are complete because the stand openness could result in better off trail riding opportunities.

Although the proposed riparian and aquatic resource management direction differs between the six alternatives, the effect to the recreation resource would be very similar across all alternatives. Whether the alternative implements INFISH, ARCS, or ARCS-mod as described in the aquatic resource section, the following management direction (objectives and guidelines) would generally apply to recreation resources with some differences in terminology between the alternatives:

- New facilities and infrastructure should not be placed within long-term channel migration zones. If facilities must be located within the riparian management area (i.e., boat launches), locate them to minimize impacts on riparian conditions.
- Consider relocating existing facilities that are causing unacceptable impacts within the riparian area.
- Adjust trail management, dispersed and developed recreation practices that retard or prevent attainment of Riparian Management Objectives or disrupt natural hydrologic processes using practices such as education, use limitations, traffic control devices, facility relocation, and site-specific closures.
- Hazard trees may be felled and generally retained on-site to enhance aquatic and riparian resources.

In all six alternatives, the above riparian and aquatic resource objectives and guidelines would require corrective actions be taken on recreation resources that are impairing proper hydrologic function or causing unacceptable impacts within the riparian management area (RMA). The recreation management tools available to implement changes within the RMA would be the same across all alternatives.



Under all alternatives, recreation management direction specific to developed and dispersed recreation would remain the same. Management activities, specifically vegetation treatments (both mechanical and prescribed fire), may result in short or intermediate length closures of developed and dispersed recreation sites for public safety which would result in the displacement of users to other recreation sites across the Forest or onto neighboring Forests. Longer-term displacements could occur if the recreation site character is altered beyond what is acceptable to the user. For example, thinning trees in a camping area (developed or dispersed) may reduce vegetative screening between campsites and the road, which may affect the sense of privacy and result in increased noise and dust. The length of displacement would vary by treatment type, the amount of slash and debris piles, the time required to regrow vegetation, and the overall scenic quality of the area that exists after management action are complete.

Management direction for Nationally Designated Trails and Roads would remain the same across all alternatives. No new scenic byways, or national recreation trails are proposed under any alternative. These special designation areas would continue to be managed to protect the values for which they were designated. Direction specific to the Pacific Northwest National Scenic Trail (PNT) developed through the PNT's trail Comprehensive Plan would be incorporated into the new forest plan when completed in 2018 to 2019.

Wild and Scenic River and Wilderness management direction would remain the same under all alternatives. Both eligible wild and scenic river segments (Kettle and South Fork Salmo Rivers) on the Forest would be managed to ensure their future eligibility by protecting the values for which they were found eligible based on national direction and law. No new eligible wild and scenic river segments are proposed under any of the alternatives. Additional proposed wilderness is discussed under each alternative.

Management of Recreation Special Uses would remain the same under all alternatives and be based on national direction and law. All existing recreation special uses would continue to occur on the forest. However, it is possible that the land base used by a permittee could change based on the alternative. For example, backcountry areas selected as recommended wilderness could result in changes to where a mountain bike or OHV outfitter could operate, resulting in changes to the authorized trails and areas permitted for use by each operator. At this time, no changes to permits are expected based on the types of uses currently authorized by permit on the forest.

Management of motor vehicle use of roads (off-highway and highway legal vehicles) would remain the same under all alternatives and be managed per the Forest's current-year motor vehicle use map, pursuant to the 2005 Travel Management Rule. Changes in the management of motor vehicle use of roads would continue to be made on a project-by-project basis based on the desired conditions, objectives, standards, and guidelines contained in the new forest plan.

## **No-action Alternative**

The following summarizes the effects to recreation resources associated with the implementation of the no-action alternative. Issues analyzed include the identification of lands suitable for recreation use, motorized recreation trails, access, and recommended wilderness.

Under the no-action alternative, the recreation suitability determinations and the Recreation Opportunity Spectrum mapping completed as part of the 1988 Colville National Forest Land and Resource Management Plan for summer and winter motorized and non-motorized recreation opportunities would be retained. The number of summer motorized recreation trail miles and the acres of backcountry motorized recreation would remain unchanged from the existing condition.

This alternative would provide the greatest number of summer motorized trail miles (along with alternatives P, O, and the proposed action) and the third fewest (of the six alternatives) acres managed for backcountry motorized recreation. Access for recreation would continue to be affected through project specific decisions based on improving resource and habitat conditions. Road decommissioning would be expected to continue at a rate similar to recent years across the Forest and should result in little or no change in the public's ability to participate in a variety of summer and winter dispersed and developed recreation opportunities across the Forest. The existing number of Semi-Primitive Motorized (SPM) and Semi-Primitive Non-Motorized (SPNM) management area acres would be retained at a level that ranks third lowest amongst the alternatives. No recommended wilderness is proposed under this alternative. All backcountry recreation opportunities would continue across the Forest. The miles of trail open to mountain biking would not change from the existing condition. The no-action alternative provides the greatest number of trail miles open to mountain biking of all the alternatives. Motorized equipment for trail maintenance and reconstruction would be allowed on all trails except for those in designated wilderness. Opportunities for over-snow vehicle recreation would be retained across the Forest with no change in the number of acres open to this form of recreation when compared to the existing condition. The no-action alternative supports the largest number of acres open to over-snow vehicle recreation opportunities of the six alternatives.

#### Identification of Lands Suitable for Recreation Use

The no-action alternative retains the recreation suitability determinations made in the 1988 Colville National Forest Land and Resource Management Plan (as amended) for summer and winter motorized and non-motorized recreation opportunities. All of the recreation activities and opportunities provided for in the 1988 Plan would continue to be available under the no-action alternative and there would be no effect to the lands identified as suitable for recreation under the 1988 Colville Forest Plan. For a comparison between alternatives of management areas suitable for summer and winter motorized and non-motorized recreation opportunities, see table 190.

Under the no-action alternative, no changes to the Forest's existing Recreation Opportunity Spectrum (ROS) mapping would occur. Recreation opportunities would still be available in a variety of ROS classes including semi-primitive non-motorized, semi-primitive motorized, roaded natural, roaded modified and rural, representing a broad array of natural settings, managerial, and social environments in which users could participate in their preferred activities.

Implementation of the no-action alternative would provide the greatest number of total Forest acres open to both winter and summer motorized recreation opportunities when compared to the action alternatives. Total Forest acres open to non-motorized recreation opportunities remains fairly consistent (within 3,000 acres) among all the alternatives. Table 192 compares the number of acres open to over-snow vehicle recreation opportunities by alternative. For a comparison of the number of acres open to summer motorized and non-motorized recreation opportunities by alternative, see table 194.

20310

**Table 192. Total acres open to over-snow vehicles by alternative**

	No Action	Proposed Action	Alt. R	Alt. P	Alt. B	Alt. O
Active Management Area	0	0	0	0	132,526	0
Backcountry	0	90,846	19,035	123,100	4,835	174,311
Backcountry Motorized	0	9,522	755	4,835	755	4,832
Focused Restoration	0	51,367	0	57,478	0	0
General Restoration	0	121,813	62,450	120,422	0	0
Late Forest Structure	0	0	117,522	0	0	0
Recommended Wilderness	0	101,390	207,800	68,300	220,330	15,950
Research Natural Area	4,707	5,694	5,694	5,690	5,692	5,701
Responsible Management Area	0	0	0	0	0	116,935
Restoration Area	0	0	0	0	46,760	61,074
Scenic Byways	0	5,999	5,652	5,656	5,644	5,654
Semi-Primitive Non-Motorized	86,880	0	0	0	0	0
Special Interest Areas (Does not include the Kettle Crest SIA)	0	1,165	0	0	0	0
Scenic/Winter Range	76,128	0	0	0	0	0
Winter Range	126,207	0	0	0	0	0
Wilderness**	31,400	31,400	31,400	31,400	31,400	31,400
Total Acres by Alternative	1,103,237	1,103,668	1,101,717	1,101,891	1,101,880	1,101,372
Total Acres Closed to Over-snow Vehicle Recreation Opportunities	325,372	419,221	450,393	416,951	447,934	415,885
Total Acres Open to Over-snow Vehicle Recreation Opportunities	777,865	684,447	651,324	684,940	653,946	685,487

20311

\*Acres vary by alternative due to the GIS methodology used to count boundary areas.

20312

\*\*The congressionally designated acreage for the Salmo-Priest Wilderness does not change by alternative.

20313

### Motorized Recreation Trails

20314

Implementation of the no-action alternative would maintain the existing number of motorized and

20315

non-motorized trail opportunities currently available across the Forest. Under this alternative,

20316

approximately 181 miles of summer trail would be managed for summer motorized recreation

20317

opportunities and 342 miles of summer trail would be managed for summer non-motorized

20318

recreation opportunities. For a comparison of summer motorized and non-motorized recreation trail

20319

miles between alternatives, see table 193. Trails managed for summer motorized recreation would

20320

continue to provide opportunities for ATVs, motorcycles, and four wheel drives greater than

20321

50 inches wide (jeep trails). Trails managed for summer non-motorized recreation would continue to

20322

provide opportunities for hiking, mountain biking, and pack and saddle stock use. Under the no-

20323

action alternative, there would be no change in the number of miles or the types of managed summer

20324

motorized and non-motorized recreation trail opportunities on the Forest.

20325

20326 **Table 193. Comparison of summer motorized and non-motorized trail miles by alternative**

	No Action	Proposed Action	Alt. R	Alt. P	Alt. B	Alt. O
Miles of Summer Motorized Trail	181	181	142	181	142	181
Miles of Summer Non-motorized Trail	342	342	382	342	382	342

20327 The no-action alternative would maintain the spatial distribution of existing summer motorized trail  
 20328 opportunities across the Forest and would continue to provide the existing mix of motorized and non-  
 20329 motorized trail systems within each of the three counties in which the Colville National Forest is  
 20330 located. Likewise, this alternative would maintain the number of backcountry acres managed for  
 20331 summer motorized recreation trail use at 13,571 acres (1 percent of the Forest) as designated in the  
 20332 1988 Colville National Forest Land and Resource Management Plan as semi-primitive motorized  
 20333 recreation management areas. The number of semi-primitive motorized acres available in the no-  
 20334 action alternative represents the third fewest acres available for backcountry motorized recreation  
 20335 trails of all the alternatives. Overall, summer motorized recreation trail opportunities would be  
 20336 allowed on 904,560 acres (82 percent of the Forest) across the Forest. Summer non-motorized  
 20337 recreation trail opportunities would be allowed on nearly 100 percent of the Forest's land base  
 20338 (except for research natural areas), of which 118,330 acres (11 percent) would provide for summer  
 20339 non-motorized recreation trail opportunities in a non-motorized setting (includes semi-primitive non-  
 20340 motorized recreation and wilderness management areas). For a comparison of management area  
 20341 acres open to motorized and non-motorized use, see table 194.

20342 Under the no-action alternative, there would be a greater opportunity to access summer non-  
 20343 motorized recreation trails than summer motorized recreation trails for several reasons. First, the  
 20344 number of non-motorized trail miles would outnumber motorized trail miles by nearly two to one.  
 20345 Second, the acres available for summer backcountry non-motorized trail opportunities would  
 20346 outnumber the acres available for summer backcountry motorized trail opportunities by  
 20347 104,759 acres. Third, additional non-motorized trails could be constructed anywhere on the Forest  
 20348 (except research natural areas) under the proposed action, while summer motorized recreation trails  
 20349 could only be located outside of old growth dependent species habitat, caribou habitat,  
 20350 recreation/wildlife, research natural area, wilderness management, and semi-primitive non-motorized  
 20351 recreation management areas, which reduces the potential Forest acreage available for new summer  
 20352 motorized trail opportunities by 18 percent as compared to new non-motorized trail opportunities.  
 20353 Fourth, the summer motorized trail opportunities in the no-action alternative are geographically  
 20354 limited to remote areas of eastern Ferry County and the border between Stevens and Pend Oreille  
 20355 Counties while summer non-motorized trail opportunities are located evenly across the Forest, with  
 20356 many of them easily accessible by passenger vehicle from communities adjacent to the Forest.

20357

**Table 194. Acres\* managed for summer backcountry motorized and backcountry non-motorized trail opportunities and total forest acres, by alternative**

	No Action	Proposed Action	Alt. R	Alt. P	Alt. B	Alt. O
Acres Managed for Backcountry Motorized Trail Opportunities	13,571	61,725	6,698	54,577	6,606	53,734
Acres Managed for Backcountry Non-motorized Trail Opportunities, excluding Wilderness	86,880	90,846	20,230	123,100	4,835	174,311
Forest Acres Managed for Backcountry Non-motorized Trail Opportunities, Including Wilderness and Recommended Wilderness	118,330	223,668	259,529	222,870	256,602	221,702
Total Forest Acres Open to Motorized Trail Opportunities	904,561	872,338	836,483	873,330	839,565	873,957
Total Forest Acres Open to Non-motorized Trail Opportunities	1,098,530	1,097,965	1,096,013	1,096,184	1,096,167	1,095,660
Total Forest Acres	1,103,237	1,103,668	1,101,717	1,101,891	1,101,880	1,101,372

\*Acres vary by alternative due to the GIS methodology used to count boundary areas.

## Access

Under the no-action alternative, desired conditions for road density are based on the specific habitat needs of various wildlife species such as caribou and grizzly bear. Road management decisions would be based on the need for public access, safety, forest management and resource needs. Decisions on road decommissioning would be made at the project level based on information provided by resource specialists and recommendations contained in the Forest's most recent Travel Analysis Report pursuant to subpart A of the 2005 Travel Management Rule. During these project level discussions, reductions in road density could be proposed to meet resource needs that would reduce roaded access for recreation uses. The level of effect associated with reducing road density would be dependent on the length of open system roads that would be proposed for decommissioning – the greater the length, the greater the potential reduction in roaded recreation access. However, if Maintenance Level 1 roads—those roads already closed to vehicle use by the public—are selected for decommissioning instead of open system roads, then there would be a corresponding reduction in the potential loss of open road access for recreation use. Similarly, roads decommissioned in riparian areas would have a greater impact on roaded access for recreation use than those located in upland areas since most recreation use on the Forest occurs in riparian areas associated with lakeshores, rivers, and streams. A reduction in open road density would reduce access to dispersed recreation opportunities such as hunting, fishing, camping, driving for pleasure, and gathering of forest products. However, since most dispersed recreation activities can be enjoyed throughout the Forest, localized road decommissioning would likely result in users shifting their dispersed recreation access needs to nearby roads in order to participate in the same dispersed recreation activities resulting in little to no reduction in the public's participation in or access to dispersed recreation opportunities on the Forest.

Under the no-action alternative, a reduction in roaded access for trail and developed site recreation opportunities would not be anticipated since these opportunities are generally located along major

20386 travel routes. These major travel routes would typically be improved or rerouted (instead of  
20387 decommissioned) to correct resource concerns in order to ensure continued access to the Forest's  
20388 developed recreation infrastructure.

20389 Implementation of the no-action alternative would likely result in fewer impacts to roaded access for  
20390 recreation than alternatives R and P which have a desired condition for road density of 1 to 2 miles  
20391 per square mile and could result in a greater reduction in system roads, especially in key watersheds  
20392 and watersheds where the existing road densities are above the desired condition. The no-action  
20393 alternative would have similar effects on roaded access for recreation as the proposed action that has  
20394 a desired condition for road density of 2 to 3 miles per square mile, which is close to the existing  
20395 condition (at the Forest scale) for most watersheds. The no-action alternative would have a similar  
20396 effect on roaded access for recreation as alternatives B and O, which do not have a desired condition  
20397 for road density and would cap the road miles across the forest at the level of the existing condition.

### 20398 Recommended Wilderness

20399 The no-action alternative contains no recommended wilderness and would not contribute to the need  
20400 to adequately represent underrepresented ecosystems (identified during the wilderness evaluation  
20401 process) by providing additional wilderness in the Okanogan Highlands ecoregion. Management of  
20402 backcountry areas would continue to be covered under direction contained in the 1988 Colville  
20403 National Forest Land and Resource Management Plan for semi-primitive, motorized recreation  
20404 (SPM) and semi-primitive, non-motorized recreation (SPNM).

20405 This alternative maintains the existing condition for SPM and SPNM recreation opportunities and  
20406 does not provide an option to increase wilderness based recreation opportunities on the Forest. The  
20407 no-action alternative retains 13,571 (1 percent of the Forest) SPM acres for backcountry motorized  
20408 recreation opportunities and an additional 86,880 (8 percent of the Forest) SPNM acres of  
20409 backcountry for non-motorized recreation opportunities. A comparison of SPM (Backcountry  
20410 Motorized in the Action alternatives) and SPNM (Backcountry in the Action alternatives)  
20411 management area acres by alternative can be found in table 194.

20412 Under this alternative, the Forest's only backcountry recreation rental cabin would continue to be  
20413 located in a SPNM management area. Therefore, the cabin would remain available to the public for  
20414 recreational lodging and access to the cabin would continue through non-motorized modes of  
20415 transportation.

20416 Existing motorized trail systems located in SPM management areas, including Owl Mountain,  
20417 Jackknife, Twin Sisters, and South Huckleberry would continue to be managed for motorized use. As  
20418 a result, there would be no change in existing summer backcountry motorized recreation  
20419 opportunities if the no-action alternative is implemented.

20420 Likewise, there would be no change in the number of mountain bike trail miles that are located in  
20421 SPM and SPNM management areas. All trails currently open to mountain bikes would continue to be  
20422 open to that use under the no-action alternative.

20423

20424 **Table 195. Backcountry acres open to mountain bike trails and miles of existing trail that would be open**  
20425 **to mountain bikes by alternative**

	No Action	Proposed Action	Alt. R	Alt. P	Alt. B	Alt. O
Backcountry Acres Open to Mountain Bike Trails	100,451	152,572	26,929	177,680	11,441	228,045
Miles of Non-motorized Trail Open to Mountain Bike Use	301	151	88	223	80	272

20426 The number of trail miles that are open to motorized trail maintenance and reconstruction equipment  
20427 across the Forest would remain the same. Therefore, the average number of hours and people needed  
20428 to complete annual maintenance tasks should not change. As a result, trail maintenance and  
20429 reconstruction costs would not be expected to change as a result of implementing the no-action  
20430 alternative.

20431 Over-snow vehicle opportunities on the Forest would continue to be available at a level consistent  
20432 with the existing condition. Existing SPNM, RNA, Winter Range, and wilderness management areas  
20433 would continue to be closed to over-snow vehicle use. Implementation of the no-action alternative  
20434 would result in no change in legal over-snow vehicle recreation opportunities across the Forest.

## 20435 **Proposed Action**

20436 The proposed action provides for a balanced mix of wilderness, motorized and non-motorized  
20437 recreation opportunities to address the increases in visitor uses due to population growth, and  
20438 changing demographics. It offers a range of recreation settings by designating and distributing  
20439 management areas in both the front and backcountry to accommodate how people use and access the  
20440 Forest. It allows for the existing level of authorized road access with approximately 74 percent of the  
20441 Forest in a roaded recreation setting (same as the current plan).

20442 The following summarizes the effects to recreation resources associated with the implementation of  
20443 the proposed action. Issues analyzed include the identification of lands suitable for recreation use,  
20444 motorized recreation trails, access, and recommended wilderness.

20445 The proposed action retains the recreation suitability determinations completed as part of the 1988  
20446 Colville National Forest Land and Resource Management Plan for summer and winter motorized and  
20447 non-motorized recreation opportunities. Changes would be made to the Forest's Recreation  
20448 Opportunity Spectrum (ROS) map to accurately reflect increases in Semi-Primitive Motorized and  
20449 Semi-Primitive Non-Motorized ROS classes (a result of increases in acres associated with  
20450 recommended wilderness, Backcountry and Backcountry Motorized Management Areas) and to  
20451 reflect the increase in the Roaded Natural ROS class that resulted from the absorption of the ROS  
20452 sub-class of Roaded Modified in the 1988 forest plan into the Roaded Natural ROS classification in  
20453 the Revised Forest Plan. The number of summer motorized recreation trail miles would remain the  
20454 same and the acres of backcountry motorized recreation management areas would increase by nearly  
20455 50,000 acres when compared to the existing condition. This alternative would provide the greatest  
20456 number of summer motorized trail miles (along with alternatives P, O, and no action) and the most  
20457 acres managed for backcountry motorized recreation. Road access to dispersed recreation  
20458 opportunities, especially those in riparian areas, could be reduced slightly over the life of the plan as  
20459 projects are implemented to move the Forest toward a desired condition for road density of 2 to  
20460 3 miles per square mile. Expected levels of road decommissioning should result in little or no change

20461 in the public's ability to participate in a variety of summer and winter dispersed and developed  
20462 recreation opportunities across the Forest.

20463 The proposed action includes the third highest number of recommended wilderness acres, the third  
20464 highest number of backcountry management area acres, and the highest number of backcountry  
20465 motorized management area acres of the six alternatives. Non-conforming wilderness uses would be  
20466 allowed to continue in recommended wilderness until the areas are designated as wilderness by  
20467 Congress. Most backcountry recreation opportunities would continue across the Forest. However, the  
20468 miles of trail open to mountain biking would be reduced (a result of adding additional recommended  
20469 wilderness areas), resulting in the third lowest number of miles open to mountain biking when  
20470 compared to the other alternatives.

20471 Once the recommended wilderness areas are designated as wilderness by Congress, motorized  
20472 equipment for trail maintenance and reconstruction would no longer be permitted on approximately  
20473 125 miles of trail accessing the recommended wilderness, resulting in a potential increase in trail  
20474 maintenance and reconstruction costs across the Forest. Opportunities for over-snow vehicle  
20475 recreation would be reduced as a result of an increase in acres associated with backcountry (semi-  
20476 primitive non-motorized), research natural area, and recommended wilderness management areas as  
20477 well as increases in designated winter range. The proposed action offers the third lowest number of  
20478 acres open to over-snow vehicle recreation opportunities when compared to the other alternatives.

#### 20479 Identification of Lands Suitable for Recreation Use

20480 The proposed action retains the recreation suitability determinations made in the 1988 Colville  
20481 National Forest Land and Resource Management Plan (as amended) for summer and winter  
20482 motorized and non-motorized recreation opportunities. All of the types of recreation activities and  
20483 opportunities provided for in the 1988 Plan would continue to be available under the proposed  
20484 action, but may not be available in all of the same locations as under the no-action alternative. For a  
20485 comparison between alternatives of management areas suitable for summer and winter motorized  
20486 and non-motorized recreation opportunities, see table 190.

20487 Under the proposed action, changes would be made to the Forest's Recreation Opportunity Spectrum  
20488 (ROS) map to accurately reflect increases in the Semi-Primitive Motorized and Semi-Primitive Non-  
20489 Motorized ROS classes as a result of increased acreages associated with recommended wilderness,  
20490 Backcountry and Backcountry Motorized Management Areas. In addition, the ROS map would be  
20491 updated to reflect the increase in the Roaded Natural ROS class as a result of the absorption of the  
20492 1988 forest plan's ROS sub-class of Roaded Modified into the Roaded Natural classification in the  
20493 Revised Forest Plan. Recreation opportunities would still be available across the Forest in a variety  
20494 of ROS classes including semi-primitive non-motorized, semi-primitive motorized, roaded natural,  
20495 and rural, representing a broad array of natural settings, managerial, and social environments in  
20496 which users could participate in their preferred activities. The Recreation Opportunity Spectrum  
20497 (ROS) class acreages for each alternative are summarized in table 196.

20498



20499 **Table 196. Acres\* and percentage of the Forest in each ROS class by alternative**

ROS Class	No Action Acres (percent)	Proposed Action Acres (percent)	Alt. R Acres (percent)	Alt. P Acres (percent)	Alt. B Acres (percent)	Alt. O Acres (percent)
Urban (U)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Rural (R) – 49 Degrees North Ski Area	2,032 (0.002%)	2,083 (0.002%)	2,083 (0.002%)	2,083 (0.002%)	2,083 (0.002%)	2,083 (0.002%)
Roaded Modified (RM)	549,357 (50%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Roaded Natural (RN)	294,972 (27%)	810,028 (74%)	817,353 (74%)	817,353 (74%)	817,353 (74%)	817,353 (74%)
Semi-Primitive Motorized (SPM)	107,418 (10%)	62,116 (6%)	6,617 (0.6%)	54,790 (5%)	6,617 (0.6%)	54,790 (5%)
Semi-Primitive Non-Motorized (SPNM)	114,537 (10%)	196,180 (18%)	244,353 (22%)	196,180 (18%)	244,353 (22%)	196,180 (18%)
Primitive (P)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Wilderness**	31,400 (3%)	31,400 (3%)	31,400 (3%)	31,400 (3%)	31,400 (3%)	31,400 (3%)
<b>TOTAL ACRES</b>	<b>1,102,787</b>	<b>1,101,840</b>	<b>1,101,840</b>	<b>1,101,840</b>	<b>1,101,840</b>	<b>1,101,840</b>

\*Acres vary by alternative due to the GIS methodology used to count boundary areas.

\*\*The congressionally designated acreage for the Salmo-Priest Wilderness does not actually change by alternative.

Implementation of the proposed action would provide the 4th highest number of total Forest acres open to winter over-snow vehicle recreation opportunities and the 4th highest number of total Forest acres open to summer motorized recreation opportunities when compared to the other alternatives. Total Forest acres open to non-motorized recreation opportunities remains fairly consistent (within 3,000 acres) amongst all the alternatives. For a comparison of the number of acres open to winter over-snow vehicle recreation opportunities by alternative, see table 192. For a comparison of the number of acres open to summer motorized and non-motorized recreation opportunities by alternative, see table 194.

### Motorized Recreation Trails

The proposed action would maintain the same number of summer motorized and non-motorized trail miles across the Forest as the no-action alternative. Under this alternative, approximately 181 miles of summer trail would be managed for motorized recreation opportunities and 342 miles of summer trail would be managed for non-motorized recreation opportunities. For a comparison of summer trail miles managed for motorized and non-motorized recreation opportunities by alternative, see table 193. Trails managed for motorized recreation would continue to provide opportunities for ATVs, motorcycles, and four wheel drives greater than 50 inches wide (jeep trails). Trails managed for summer non-motorized recreation would continue to provide opportunities for hiking, mountain biking, and pack and saddle use. There would be no change in the number of motorized trail miles or the types of managed motorized and non-motorized recreation trail opportunities on the Forest.

The proposed action would maintain the spatial distribution of existing summer motorized trail opportunities and the existing availability of summer motorized recreation trail opportunities located in backcountry settings. The proposed action would continue to provide the existing mix of motorized and non-motorized trail systems within each of the three counties in which the Colville

National Forest is located. Under the proposed action, 61,725 acres (6 percent of the Forest) would be designated as backcountry motorized management areas. The proposed action offers the most backcountry motorized management area acres of the six alternatives. In total, summer motorized recreation trail use would be allowed on 872,338 acres (79 percent) across the Forest. Summer non-motorized recreation trail opportunities would be allowed on nearly 100 percent of the Forest's land base (except for research natural areas), of which 223,668 acres (20 percent) would provide for summer non-motorized recreation trail opportunities in a non-motorized setting (includes backcountry, wilderness, and recommended wilderness management areas). For a comparison of management area acres open to motorized and non-motorized recreation trail opportunities, see table 194.

Under the proposed action, there would be a greater opportunity to access summer non-motorized recreation trails than summer motorized recreation trails for several reasons. First, the number of non-motorized trail miles would outnumber motorized trail miles by nearly 2 to 1. Second, the acres available for summer backcountry non-motorized trail opportunities would outnumber the acres available for summer backcountry motorized trail opportunities by 162,000 acres. Third, additional non-motorized trails could be constructed anywhere on the Forest (except research natural areas - RNAs) under the proposed action, while summer motorized recreation trails could only be located outside of wilderness, recommended wilderness, RNAs, and backcountry management areas, which reduces the potential Forest acreage available for new summer motorized trail opportunities by 21 percent as compared to new non-motorized trail opportunities. Fourth, the summer motorized trail opportunities in the proposed action are geographically limited to remote areas of eastern Ferry County and the border between Stevens and Pend Oreille Counties while the proposed action's summer non-motorized trail opportunities are located fairly evenly across the Forest, with many of them easily accessible by passenger vehicle from communities adjacent to the Forest.

## Access

Under the proposed action, the desired condition for road density on the Colville National Forest would be 2 to 3 miles per square mile, which is close to the existing forestwide road density. In those watersheds already meeting the desired condition, there would be no need to decommission roads to show movement toward the road density desired condition. If no roads are decommissioned, there would be no effect to roaded access for recreation use in those watersheds. However, it is still likely that some road decommissioning would occur in those watersheds meeting the desired condition for road density in order to improve resource and habitat conditions on a project-by-project basis. Effects of this type of road decommissioning would be the same as those described under the no-action alternative.

In the remaining watersheds that would require reductions in road density to meet the desired condition, there would be a corresponding reduction in roaded access for recreation use depending on the specific roads selected to be decommissioned. The level of effect associated with reducing road density in these watersheds would be dependent on the length of open system roads that would be proposed for decommissioning—the greater the length, the greater the potential reduction in recreation access. However, if Maintenance Level 1 roads—those roads already closed to vehicle use by the public—are selected for decommissioning instead of open system roads, then there would be a corresponding reduction in the potential loss of open road access for recreation use. Similarly, roads decommissioned in riparian areas would have a greater impact on access for recreation use than those located in upland areas since most recreation use on the Forest occurs in riparian areas associated with lakeshores, rivers, and streams.

Under the proposed action, a reduction in roaded access for trail and developed site recreation opportunities would not be anticipated since these opportunities are generally located along major travel routes. These major travel routes would typically be improved or rerouted (instead of decommissioned) to correct resource concerns and ensure continued access to the Forest's recreation infrastructure. A reduction in open road density would reduce access to dispersed recreation opportunities such as hunting, fishing, camping, driving for pleasure, and gathering of forest products. However, since most dispersed recreation activities can be enjoyed throughout the Forest, localized road decommissioning would likely result in users shifting their access needs to nearby roads in order to participate in the same dispersed recreation activities. As a result, a minor loss of road access would result in little to no reduction in the public's participation in or access to recreation opportunities on the Forest.

Implementation of the proposed action would likely result in fewer impacts to roaded access for recreation than alternatives R and P which have a desired condition for road density of 1 to 2 miles per square mile and could result in a greater reduction in system roads, especially in key watersheds and watersheds where the existing road densities are above the desired condition. The proposed action would likely result in similar effects to roaded access for recreation as the no-action alternative and alternatives B and O, all of which do not have a desired condition for road density and would implement road decommissioning projects based on resource and habitat needs identified during project level analysis.

### Recommended Wilderness

The proposed action recommends 9 percent (101,390 acres) of the Forest be recommended as additional wilderness, including the following inventoried potential wilderness areas (PWAs): Salmo-Priest Adjacent, Abercrombie-Hooknose, Hoodoo, Profanity, and Bald-Snow. For a comparison of recommended wilderness acreage by alternative, see table 197. Each of the PWAs in this alternative were evaluated by the forest plan revision team according to the process identified in FSH 1909.12 Chapter 70 and determined to contribute to the capability, availability, and need for additional wilderness in the Okanogan Highlands ecoregion. The southern end of the Profanity PWA and the northern end of the Bald-Snow PWA were not brought forward as recommended wilderness in the proposed action to allow for established recreation uses to continue including mountain biking, maintenance of an historic fire lookout, and use of a backcountry recreation rental cabin. These recreation opportunities were identified during the 2009 wilderness evaluation process and the Forest Supervisor at the time the proposed action was selected supported the public benefits associated with these recreation opportunities over the recreational need for the affected acres to be recommended as additional wilderness in the Okanogan Highlands ecoregion. At least one PWA under this alternative would be recommended as potential wilderness in each of the three counties located within the Forest's boundary.

**Table 197. Acres of recommended wilderness by alternative**

No Action	Proposed Action	Alt. R	Alt. P	Alt. B	Alt. O
0	101,390	207,800	68,300	220,330	15,950

Under this alternative, non-conforming recreation opportunities and motorized trail maintenance and reconstruction activities would be allowed to continue until Congress designates the recommended wilderness areas as wilderness. No new non-conforming uses would be allowed. Even with the continuation of non-conforming uses, the wilderness qualities associated with the recommended wilderness areas listed in the proposed action are not expected to be altered prior to designation as

wilderness by Congress. This determination is based on the fact that the existing non-conforming uses were identified during the 2009 PWA evaluation process and their presence did not preclude the roadless areas from meeting the evaluation criteria (capability, availability, and need) for inclusion on the inventory of potential wilderness areas. Therefore, allowing these non-conforming uses to continue at use rates similar to when the wilderness evaluations were completed should not detract from the inherent wilderness qualities associated with the five PWAs.

This alternative strives to balance the public's desire for additional wilderness with existing backcountry recreation opportunities such as mountain biking and OHV riding. As a result, not all of the PWAs that have wilderness qualities were recommended as wilderness. Instead, this alternative retains 61,725 acres (6 percent of the Forest) of backcountry for motorized recreation opportunities and an additional 90,846 acres (8 percent of the Forest) of backcountry for non-motorized recreation opportunities that do not conform with wilderness management direction such as mountain biking and the use of game carts. See table 194 for a comparison of backcountry and backcountry motorized management acres by alternative.

Eleven PWAs (Bodie Mountain, Clackamas Mountain, Cougar Mountain, Deer Creek, Grassy Top, Hall Mountain, Harvey Creek, Jackson Creek, Quartzite, South Fork Mountain, and Thirteenmile) are designated as backcountry management areas under the proposed action. In addition, the southern end of the Profanity PWA and the northern end of the Bald-Snow PWA were also retained as backcountry. Combined, these PWAs would provide approximately 75 miles of trail for backcountry mountain bike recreation opportunities. Managing these PWAs as backcountry would allow the Forest to continue to manage its only backcountry rental cabin and to maintain an historic fire lookout.

The PWAs designated as backcountry motorized management areas in this alternative include the Owl Mountain, Jackknife, Twin Sisters, South Huckleberry and Lost Creek. Combined, these PWAs provide access to all of the Forest's existing backcountry motorized trail systems. As a result, there would be no change in the existing summer motorized vehicle recreation opportunities if this alternative was implemented.

If the recommended wilderness areas listed in this alternative become designated wilderness, mountain bike trail opportunities would no longer be available on an additional 101,390 acres across the Forest. This equates to a 150-mile (50 percent) reduction in the number of available mountain bike trail opportunities that are associated with the Forest's existing summer non-motorized trail system. For a comparison between alternatives of backcountry management acres open to mountain biking and the number of trail miles open to mountain biking, see table 195.

If the recommended wilderness areas listed under the proposed action are designated as wilderness by Congress, trail maintenance and reconstruction costs would increase on the 150 miles of trail that access the 101,390 acres of recommended wilderness. This cost increase is based on the required change from using motorized (chainsaws, power toters, trail dozers, etc.) trail maintenance and reconstruction equipment to non-motorized equipment (cross-cut saws, pack mules, pulaskis, etc.) which would likely result in annual tasks, such as spring logout, and reconstruction efforts taking more time to complete, additional people, or both.

Implementation of the proposed action would prohibit over-snow vehicle use on 93,849 acres currently open to over-snow vehicle recreation opportunities in the no-action alternative as a result of an increase in acres associated with backcountry (semi-primitive non-motorized), research natural area, and recommended wilderness management areas as well as changes in designated winter range. However, the majority of the additional acres that would be closed to over-snow vehicle use under

the proposed action consist of heavily vegetated slopes and terrain that is difficult to access and currently supports only limited over-snow vehicle recreation opportunities. Therefore, implementation of the proposed action would result in little to no reduction in the amount of over-snow vehicle recreation opportunities available on the Forest when compared to the no-action alternative. For a comparison of acres open to over-snow vehicle recreation opportunities by alternative, see table 192.

## **Alternative R**

Alternative R responds to public comments that support old forest reserve land allocations where old forest habitat is the management emphasis and those who want to continue to use a 21-inch diameter limit on cutting old trees to maintain old forest habitats. It also responds to those who advocate for increased wilderness across the Forest.

Public issues concerning potential impacts that road access and summer and winter motorized trail use may have on aquatic, riparian, and wildlife habitats, including grizzly core areas and habitat connectivity, are addressed through low road densities, a low amount of backcountry motorized areas, and the high proportion of recommended wilderness areas.

This alternative is based on an alternative developed by a coalition of conservation groups.

The following summarizes the effects to recreation resources associated with the implementation of alternative R. Issues analyzed include the identification of lands suitable for recreation, motorized recreation trails, access, and recommended wilderness.

Alternative R retains the recreation suitability determinations completed as part of the 1988 Colville National Forest Land and Resource Management Plan for summer and winter motorized and non-motorized recreation opportunities. Changes would be made to the Forest's Recreation Opportunity Spectrum (ROS) map to accurately reflect decreases in the Semi-Primitive Motorized ROS class and increases in the Semi-Primitive Non-Motorized ROS classes (a result of increases in acres associated with recommended wilderness) and to reflect the increase in the Roaded Natural ROS class that resulted from the absorption of the ROS sub-class of Roaded Modified in the 1988 forest plan into the Roaded Natural ROS classification in the Revised Forest Plan. The number of summer motorized recreation trail miles would be reduced by 22 percent (along with alternative B, this represents the largest reduction in motorized trail miles of all the action alternatives) and the acres of backcountry motorized recreation management areas would be reduced by 51 percent (2nd largest reduction in acres of the action alternatives) when compared to the existing condition. Alternative R also reduces the Forest's existing backcountry jeep trail system from 39 miles of trail to zero.

Road access to dispersed recreation opportunities, especially those in riparian areas associated with key watersheds would be reduced over the life of the plan as projects are implemented to move the Forest toward a desired condition for road density of 1 to 2 miles per square mile. Expected levels of road decommissioning are expected to result in a gradual decrease in the public's ability to participate in a variety of summer and winter dispersed recreation opportunities across the Forest. Alternative R includes the second highest number of recommended wilderness acres, the second lowest number of backcountry management area acres, and the second lowest number of backcountry motorized management area acres of the six alternatives. Non-conforming wilderness uses would not be allowed to continue in recommended wilderness prior to designation as wilderness by Congress. Some existing backcountry recreation opportunities would no longer be available on the Forest (rental cabin, jeep trails). The miles of trail open to mountain biking would be reduced (a

20700 direct result of additional recommended wilderness areas), resulting in the second lowest number of  
20701 miles open to mountain biking when compared to the other alternatives.

20702 Motorized equipment for trail maintenance and reconstruction would no longer be permitted on  
20703 approximately 213 miles of trail accessing recommended wilderness, resulting in a potential increase  
20704 in trail maintenance and reconstruction costs across the Forest. Opportunities for over-snow vehicle  
20705 recreation would be reduced when compared to the no-action alternative as a result of the large  
20706 increase in acres associated with recommended wilderness and additional acreage associated with  
20707 RNAs and designated Winter Range. Alternative R provides the lowest number of acres open to  
20708 over-snow vehicle recreation opportunities when compared to the other alternatives.

#### 20709 Identification of Lands Suitable for Recreation Use

20710 Alternative R retains the recreation suitability determinations made in the 1988 Colville National  
20711 Forest Land and Resource Management Plan (as amended) for summer and winter motorized and  
20712 non-motorized recreation opportunities. All of the recreation activities and opportunities provided for  
20713 in the 1988 Plan would continue to be available under alternative R, but may not be available in all  
20714 of the same locations as under the no-action alternative. For a comparison between alternatives of  
20715 management areas suitable for summer and winter motorized and non-motorized recreation  
20716 opportunities, see table 190.

20717 Under alternative R, changes would be made to the Forest's Recreation Opportunity Spectrum (ROS)  
20718 map to accurately reflect decreases in the Semi-Primitive Motorized ROS class and increases in the  
20719 Semi-Primitive Non-Motorized ROS classes (a result of increases in acres associated with  
20720 recommended wilderness) and to reflect the increase in the Roaded Natural ROS class that resulted  
20721 from the absorption of the ROS sub-class of Roaded Modified in the 1988 forest plan into the  
20722 Roaded Natural ROS classification in the Revised Forest Plan. Recreation opportunities would still  
20723 be available in a variety of ROS classes across the Forest including semi-primitive non-motorized,  
20724 semi-primitive motorized, roaded natural, and rural, representing a broad array of natural settings,  
20725 managerial, and social environments in which users could participate in their preferred activities. The  
20726 Recreation Opportunity Spectrum (ROS) class acreages for each alternative are summarized in table  
20727 196.

20728 Alternative R would provide both the lowest number of total Forest acres open to winter over-snow  
20729 vehicle recreation opportunities and the lowest number of total Forest acres open to summer  
20730 motorized recreation opportunities when compared to the other alternatives. Total Forest acres open  
20731 to non-motorized recreation opportunities remains fairly consistent (within 3,000 acres) amongst all  
20732 the alternatives. For a comparison of the number of acres open to winter over-snow vehicle  
20733 recreation opportunities by alternative, see table 192. For a comparison of the number of acres open  
20734 to summer motorized and non-motorized recreation opportunities by alternative, see table 194.

#### 20735 Motorized Recreation Trails

20736 Compared to the no-action alternative, alternative R decreases the miles of summer motorized  
20737 recreation trails and increases the miles of summer non-motorized recreation trails available on the  
20738 Forest. Under this alternative, approximately 142 miles of summer trail would be managed for  
20739 motorized recreation opportunities and 382 miles of summer trail would be managed for non-  
20740 motorized recreation opportunities. Converting 39 miles of motorized trail to a non-motorized  
20741 classification results in a 22 percent decrease in the existing number of summer motorized recreation  
20742 trail miles and an increase of 10 percent in the existing number of summer non-motorized recreation  
20743 trail miles. For a comparison of summer trail miles managed for motorized and non-motorized  
20744 recreation opportunities by alternative, see table 193. Implementation of alternative R would provide

a reduced number of managed ATV and motorcycle trail opportunities across the Forest and would eliminate all of the Forest's existing trail opportunities (39 miles) associated with four wheel drives greater than 50 inches wide (jeep trails). Implementation of alternative R would increase the number of summer non-motorized recreation trail opportunities including hiking and pack and saddle stock use as compared to the number of non-motorized recreation trail opportunities in the no-action alternative.

Implementation of alternative R would decrease the spatial distribution of summer motorized recreation trail opportunities across the Forest as well as the availability of backcountry summer motorized trail opportunities. Unlike the no-action alternative which provides a mix of summer motorized and non-motorized trail opportunities throughout all three counties, alternative R would only provide a mix of summer motorized and non-motorized trail opportunities in Stevens and Pend Oreille Counties. In Ferry County, 39 miles of motorized trail would be converted to non-motorized trail, leaving only 1.4 miles (less than one percent of the total trail miles in the County) of motorized trail available within the County. Likewise, the number of backcountry acres open to motorized recreation trail opportunities would be reduced from 13,571 acres in the no-action alternative to 6,698 acres (the second fewest number of backcountry motorized management acres provided by any of the alternatives). This equates to a 51 percent reduction in backcountry areas open to motorized recreation trails.

Similarly, acres open to motorized recreation trail opportunities across the Forest would be reduced from 904,561 acres in the no-action alternative to 836,483 acres in alternative R, a direct result of additional wilderness recommendations. This represents a 7.5 percent reduction in the number of acres available for motorized recreation trail opportunities across the Forest. Non-motorized recreation trail opportunities would be allowed on nearly 100 percent of the Forest's land base (except for RNAs) and the opportunity for trails to exist in a non-motorized setting (includes backcountry, wilderness, and recommended wilderness management areas) would increase from 118,330 acres in the no-action alternative to 259,529 acres in alternative R, an increase of 219 percent. For a comparison of management area acres open to motorized and non-motorized recreation trail opportunities, see table 194.

Across the Forest, there is currently a greater opportunity to access summer non-motorized recreation trails than summer motorized recreation trails. See discussion under the no-action and proposed action alternatives that supports this statement. Implementation of alternative R would further shift the opportunity for summer trail access toward non-motorized trail activities since it would increase the number of non-motorized trail miles and acres of backcountry open to non-motorized trail use while reducing the number of motorized recreation trail opportunities and motorized backcountry management areas. This is especially true in Ferry County where motorized recreation trail opportunities would be reduced to a single 1.4-mile segment of trail.

### Access

Under alternative R, the desired condition for road density on the Colville National Forest would be 1 to 2 miles per square mile, which is generally one third to one half lower than the existing condition for the Forest depending on the specific watershed. As a result, reductions in road density would be expected in the majority of watersheds across the Forest to meet the desired condition. These reductions would likely be focused initially on the Forest's key watersheds, where the restoration of failing road infrastructure would be a priority over the life of the revised Forest Plan. Given that projected Forest funding would allow for approximately 20 miles of decommissioning each year, the magnitude of potential road decommissioning over the 20-year life span of the Forest Plan would be approximately 400 miles, or 10 percent of the Forest's existing road system.

Reducing road density would likely result in a corresponding reduction in roaded access for recreation use depending on the specific roads selected to be decommissioned. The level of effect associated with reducing road density across all watersheds would be dependent on the length of open system roads that would be proposed for decommissioning—the greater the length, the greater the potential effect on recreation access. However, if some Maintenance Level 1 roads—those roads already closed to vehicle use by the public—are selected for decommissioning instead of open system roads, then there would be a corresponding reduction in the potential loss of open road access for recreation use. Similarly, roads decommissioned in riparian areas would have a greater impact on access for recreation use than those located in upland areas since most recreation use on the Forest occurs in riparian areas associated with lakeshores, rivers, and streams. Under this alternative, decommissioning of roads located in riparian areas in order to move toward the desired condition for road density would be anticipated in key watersheds.

The proposed reduction in road density associated with alternative R would not be expected to result in a reduction in roaded access for trail and developed site recreation opportunities since these opportunities are generally located along major travel routes. These major travel routes would typically be improved or rerouted (instead of decommissioned) to correct resource concerns in order to ensure continued access to the Forest's recreation infrastructure. The proposed reduction in road density would likely reduce access to dispersed recreation opportunities such as hunting, fishing, camping, driving for pleasure, and gathering forest products. Since most dispersed recreation activities can be enjoyed throughout the Forest, localized road closures would likely result in users shifting their access needs to nearby roads. However, in key watersheds, where road decommissioning would be emphasized, road closures could reduce roaded access for dispersed recreation use to a level that would displace recreationists to other parts of the Forest in order to participate in the same dispersed recreation activities.

At the Forest scale, the effect of decommissioning approximately 400 miles of road over a 20-year period would be a gradual decrease in roaded access for recreation use. The impact of this decrease in roaded access for recreation use would be focused on dispersed recreation opportunities and would be expected to be more obvious in riparian areas associated with key watersheds. Implementation of alternative R would likely result in greater impacts to roaded access for recreation than the no-action alternative and alternatives B and O. Alternative R would have similar affects to roaded access as alternative P, which also has a desired condition for road density of 1 to 2 miles per square mile.

## **Recommended Wilderness**

Alternative R recommends 19 percent (207,800 acres) of the Forest be recommended as additional wilderness including all inventoried potential wilderness areas (PWAs) (Abercrombie-Hooknose, Bald Snow, Cougar Mountain, Deer Creek, Hall Mountain, Harvey Creek, Hoodoo, Jackknife, Owl Mountain, Profanity, Quartzite, Salmo-Priest Adjacent, South Huckleberry, Thirteenmile, and Twin Sisters) on the Colville National Forest except for Lost Creek and those portions of Bodie Mountain, Clackamas Mountain, Jackson Creek, Grassy Top, and South Fork Mountain PWAs that are located primarily on adjacent Forests and would not meet the acreage requirements necessary to be recommended as wilderness on the Colville National Forest without a corresponding recommendation from the Idaho Panhandle and Okanogan-Wenatchee National Forests for the contiguous acres located on those units. For a comparison of recommended wilderness acreage by alternative, see table 197. Each of the PWAs in this alternative were evaluated by the forest plan revision team according to the process identified in FSH 1909.12 Chapter 70 and determined to contribute to the capability, availability, and need for additional wilderness in the Okanogan



20837 Highlands ecoregion. Under alternative R, at least two PWAs would be recommended as wilderness  
20838 in each of the counties in which the Forest is located.

20839 This alternative recommends a large increase in wilderness and provides few opportunities for other  
20840 motorized and mechanized backcountry recreation opportunities on the Forest. Several PWAs that  
20841 contain well-established non-conforming uses (i.e., motorized trails, rental cabin, and mountain bike  
20842 use) that may detract from the wilderness qualities associated with the various PWAs are  
20843 recommended as wilderness in alternative R. This alternative designates 6,698 acres (less than  
20844 1 percent of the Forest) of backcountry for motorized recreation opportunities and an additional  
20845 20,230 acres (1.8 percent of the Forest) of backcountry for recreation opportunities that do not  
20846 conform with wilderness management direction, such as mountain biking. See table 194 for a  
20847 comparison of backcountry and backcountry motorized management acres by alternative.

20848 Under this alternative, recreation opportunities that would not conform to wilderness management  
20849 direction (mountain biking, motorized trail use, motorized trail maintenance and reconstruction,  
20850 historic structure maintenance, and rental cabin management) would not be allowed to continue prior  
20851 to designation of the recommended wilderness areas as wilderness by Congress. As a result, the  
20852 Forest's only backcountry cabin rental would be closed to the public and, over time, removed from  
20853 the landscape. Likewise, a recently renovated historic fire lookout would be managed to a standard  
20854 compatible with wilderness designation and may be allowed to slowly deteriorate over time. Since  
20855 existing recreation opportunities that would not conform to wilderness management direction would  
20856 not be allowed to continue prior to wilderness designation, there would be little chance that the  
20857 wilderness qualities associated with the identified recommended wilderness areas would be altered  
20858 prior to their designation as wilderness by Congress.

20859 Under alternative R, the Lost Creek PWA would be designated as a backcountry motorized  
20860 management area. The three existing trails in this PWA are currently open to motorcycles only. The  
20861 result of implementing alternative R would be a 39-mile (100 percent) reduction in backcountry  
20862 motorized trail miles that are currently open to ATVs and four wheel drives greater than 50 inches  
20863 wide and approximately a 70 percent decrease in the number of existing backcountry motorized  
20864 recreation trail miles on the Forest.

20865 Under this alternative, only those inventoried roadless areas included in the 2001 Roadless Rule  
20866 inventory and the PWAs located primarily on adjacent forests that would not meet the minimum  
20867 acreage requirements to be recommended as wilderness would be designated as backcountry  
20868 management areas. As a result, backcountry mountain bike trail opportunities would be eliminated  
20869 on 207,800 acres across the Forest. This equates to a 213 mile (71 percent) reduction in the number  
20870 of available mountain bike trail miles associated with the Forest's summer non-motorized trail  
20871 system. For a comparison between alternatives of backcountry management acres open to mountain  
20872 biking and the number of trail miles open to mountain biking, see table 195.

20873 Under alternative R, once the Forest Plan is approved and implemented, trail maintenance and  
20874 reconstruction costs could increase on the 213 miles of trail that access the 207,800 acres of  
20875 recommended wilderness. This cost increase is based on the required change from using motorized  
20876 (chainsaws, power toters, trail dozers, etc.) trail maintenance equipment to non-motorized equipment  
20877 (cross-cut saws, pack mules, pulaskis, etc.) which would likely result in annual tasks, such as spring  
20878 logout, and reconstruction efforts taking more time to complete, additional people, or both.

20879 Implementation of alternative R would prohibit over-snow vehicle use on 125,021 acres currently  
20880 open to over-snow vehicle recreation opportunities in the no-action alternative as a result of the  
20881 increase in acres associated with recommended wilderness, RNAs, and winter range. Approximately

55,000 acres of backcountry associated with the Twin Sisters, Jackknife, Owl Mountain and South Huckleberry PWAs are open to over-snow vehicles in the no-action alternative and offer 39 miles of jeep trails (these trails are neither designated nor groomed for over-snow vehicle use) that are currently available for over-snow vehicle use. Implementation of alternative R would prohibit this use. As a result, implementation of alternative R would result in a high reduction in over-snow vehicle recreation opportunities across the Forest when compared to the no-action alternative. For a comparison of acres open to over-snow vehicle recreation opportunities by alternative, see table 192.

## **Alternative P**

Alternative P proposes the second highest amount of non-motorized backcountry of all alternatives and a lower amount of recommended wilderness (RW) than the proposed action to address public concerns that wilderness designation may result in lower revenue to local economies due to reduced recreational opportunities. The backcountry motorized (BCM) management areas are similar to those in the proposed action. Participants in the Colville Collaborative group that worked on forest plan issues around wilderness and vegetation management agreed that the Kettle Crest was a special area for semi-primitive recreation opportunities, but did not agree that the area should be wilderness because of the impacts to recreation opportunities such as mountain biking and OHV riding as well as motorized trail maintenance. The proposed Kettle Crest Recreation Special Interest Area (SIA) was added as a component of this alternative to address public disagreement about recommending this area for wilderness. The backcountry and backcountry motorized management areas within the SIA would be managed to maintain their existing wilderness qualities while allowing recreation activities that do not conform with wilderness designation to continue, such as mountain biking, OHV riding, and the use of a recreation rental cabin.

Public issues concerning potential impacts that desired road densities and motorized trails in the proposed action may have on aquatic, riparian, and wildlife habitats, including grizzly core areas and habitat connectivity, are addressed through lower road densities in the focused and general restoration management areas and the higher number of combined recommended wilderness and backcountry non-motorized management acres.

This alternative also responds to public comments that asked for additional protections for riparian areas and addresses public concerns that the proposed action may not provide adequate protection that is as effective as the current forest plan amendments in managing activities within the riparian areas.

The following summarizes the effects to recreation resources associated with the implementation of alternative P. Issues analyzed include the identification of lands suitable for recreation, motorized recreation trails, access, and recommended wilderness.

Alternative P retains the recreation suitability determinations completed as part of the 1988 Colville National Forest Land and Resource Management Plan for summer and winter motorized and non-motorized recreation opportunities. Changes would be made to the Forest's Recreation Opportunity Spectrum (ROS) map to accurately reflect increases in Semi-Primitive Motorized and Semi-Primitive Non-Motorized ROS classes (a result of increases in acres associated with recommended wilderness, Backcountry and Backcountry Motorized Management Areas) and to reflect the increase in the Roaded Natural ROS class that resulted from the absorption of the ROS sub-class of Roaded Modified in the 1988 forest plan into the Roaded Natural ROS classification in the Revised Forest Plan. The number of summer motorized recreation trail miles would remain the same and the acres of backcountry motorized recreation management areas would increase when compared to the existing condition.

This alternative would provide the greatest number of summer motorized trail miles (along with alternative O, the proposed action, and no action) and the second most acres managed for backcountry motorized recreation. Road access to dispersed recreation opportunities, especially those in riparian areas associated with key watersheds would be reduced over the life of the plan as projects are implemented to move the Forest toward a desired condition for road density of 1 to 2 miles per square mile. Anticipated levels of road decommissioning are expected to result in a gradual decrease in the public's ability to participate in a variety of summer and winter dispersed recreation opportunities across the Forest. Alternative P includes the fourth highest number of recommended wilderness acres, the second highest number of backcountry management area acres, and the second highest number of backcountry motorized management area acres of the six alternatives. In addition, this alternative includes approximately 82,800 acres of primarily backcountry and backcountry motorized management areas that would be designated as a Recreation Special Interest Area along the Kettle Crest. Non-conforming wilderness uses would be allowed to continue in recommended wilderness until the areas are designated as wilderness by Congress. All backcountry recreation opportunities would continue across the Forest. However, the miles of trail open to mountain biking would be reduced by 78 miles (a direct result of additional recommended wilderness areas), resulting in the third highest number of miles open to mountain biking when compared to the other alternatives.

Once the recommended wilderness areas are designated as wilderness by Congress, motorized equipment for trail maintenance and reconstruction would no longer be permitted on approximately 78 miles of trail accessing the recommended wilderness, resulting in a potential increase in trail maintenance and reconstruction costs across the Forest. Opportunities for over-snow vehicle recreation would be reduced as a result of an increase in acres associated with backcountry (semi-primitive non-motorized), research natural area, and recommended wilderness management areas as well as increases in designated winter range. Alternative P offers the third highest number of acres open to over-snow vehicle recreation opportunities when compared to the other alternatives.

#### Identification of Lands Suitable for Recreation Use

Alternative P retains the recreation suitability determinations made in the 1988 Colville National Forest Land and Resource Management Plan (as amended) for summer and winter motorized and non-motorized recreation opportunities. All of the recreation activities and opportunities provided for in the 1988 Plan would continue to be available under alternative P, but may not be available in all of the same locations as under the no-action alternative. For a comparison between alternatives of management areas suitable for summer and winter motorized and non-motorized recreation opportunities, see table 190.

Under alternative P, changes would be made to the Forest's Recreation Opportunity Spectrum (ROS) map to accurately reflect increases in Semi-Primitive Motorized and Semi-Primitive Non-Motorized ROS classes (a result of increases in acres associated with recommended wilderness, Backcountry and Backcountry Motorized Management Areas) and to reflect the increase in the Roaded Natural ROS class that resulted from the absorption of the ROS sub-class of Roaded Modified in the 1988 forest plan into the Roaded Natural ROS classification in the Revised Forest Plan. Recreation opportunities would still be available in a variety of ROS classes across the Forest including semi-primitive non-motorized, semi-primitive motorized, roaded natural, and rural, representing a broad array of natural settings, managerial, and social environments in which users could participate in their preferred activities. The Recreation Opportunity Spectrum (ROS) class acreages for each alternative are summarized in table 196.

Implementation of alternative P would provide the third highest number of total Forest acres open to winter over-snow vehicle recreation opportunities and the third highest number of total Forest acres open to summer motorized recreation opportunities when compared to the other alternatives. Total Forest acres open to non-motorized recreation opportunities remains fairly consistent (within 3,000 acres) amongst all the alternatives. For a comparison of the number of acres open to winter over-snow vehicle recreation opportunities by alternative, see table 192. For a comparison of the number of acres open to summer motorized and non-motorized recreation opportunities by alternative, see table 194.

## Motorized Recreation Trails

Alternative P would maintain the same number of summer motorized and non-motorized recreation trail opportunities across the Forest as the no-action alternative. Under this alternative, approximately 181 miles of summer trail would be managed for motorized uses and 342 miles of summer trail would be managed for non-motorized uses. For a comparison of summer trail miles managed for motorized and non-motorized recreation opportunities by alternative, see table 193. Trails managed for motorized use would continue to provide opportunities for ATVs, motorcycles, and four wheel drives greater than 50 inches wide (jeep trails). Trails managed for summer non-motorized use would continue to provide opportunities for hiking, mountain biking, and pack and saddle use. There would be no change in the number of miles or the types of managed motorized and non-motorized recreation trail opportunities on the Forest.

Alternative P would also maintain the spatial distribution of existing summer motorized recreation trail opportunities across the Forest and would continue to provide the existing mix of summer motorized and non-motorized trail systems within each of the three counties in which the Colville National Forest is located. Implementation of alternative P would increase the number of backcountry acres managed for summer motorized recreation trail opportunities from 13,571 acres in the no-action alternative to 54,577 acres. This equates to a 400 percent increase in backcountry motorized (BCM) management area acres. These BCM areas would include all of the existing motorized backcountry trail opportunities on the Forest. Overall, summer motorized recreation trail opportunities would be allowed on 873,330 acres (79 percent of the Forest) across the Forest. Non-motorized recreation trail opportunities would be allowed on nearly 100 percent of the Forest's land base (excluding RNAs) and the opportunity for trails to exist in a non-motorized setting (including backcountry, wilderness, and recommended wilderness management areas) would equal 222,870 acres, equaling 20 percent of the Forest's land base. For a comparison of management area acres open to motorized and non-motorized recreation trail opportunities, see table 194.

Under alternative P, there would be a greater opportunity to access summer non-motorized recreation trails than summer motorized recreation trails for several reasons. First, the number of non-motorized trail miles would outnumber motorized trail miles by nearly 2 to 1. Second, the acres available for summer backcountry non-motorized trail opportunities would outnumber the acres available for summer backcountry motorized trail opportunities by 168,290 acres. Third, additional non-motorized trails could be constructed anywhere on the Forest (except research natural areas - RNAs) under alternative P, while summer motorized recreation trails could only be located outside of wilderness, recommended wilderness, RNAs, and backcountry management areas, which reduces the potential Forest acreage available for new summer motorized trail opportunities by 20 percent as compared to new non-motorized trail opportunities. Fourth, the summer motorized trail opportunities in alternative P are geographically limited to remote areas of eastern Ferry County and the border between Stevens and Pend Oreille Counties while alternative P's summer non-motorized trail opportunities are located fairly evenly across the Forest, with many of them easily accessible by passenger vehicle from communities adjacent to the Forest.

21019 **Access**

21020 Under alternative P, the desired condition for road density on the Colville National Forest would be 1  
21021 to 2 miles per square mile, which is approximately one third to one half lower than the existing  
21022 condition for the Forest depending on the specific watershed. As a result, reductions in road density  
21023 would be expected in the majority of watersheds across the Forest to meet the desired condition.  
21024 These reductions would likely be focused initially on the Forest's key watersheds, where the  
21025 restoration of failing road infrastructure would be a priority over the life of the Forest Plan. Given  
21026 that projected Forest funding would allow for approximately 20 miles of decommissioning each year,  
21027 the magnitude of potential road decommissioning over the 20-year life span of the Forest Plan would  
21028 be approximately 400 miles, or ten percent of the Forest's existing road system.

21029 Reducing road density would likely result in a corresponding reduction in roaded access for  
21030 recreation use depending on the specific roads selected to be decommissioned. The level of effect  
21031 associated with reducing road density across all watersheds would be dependent on the length of  
21032 open system roads that would be proposed for decommissioning—the greater the length, the greater  
21033 the potential effect on recreation access. However, if some Maintenance Level 1 roads—those roads  
21034 already closed to vehicle use by the public—are selected for decommissioning instead of open  
21035 system roads, then there would be a corresponding reduction in the potential loss of open road access  
21036 for recreation use. Similarly, roads decommissioned in riparian areas would have a greater impact on  
21037 access for recreation use than those located in upland areas since most recreation use on the Forest  
21038 occurs in riparian areas associated with lakeshores, rivers, and streams.

21039 The proposed reduction in road density associated with alternative P would not be expected to result  
21040 in a reduction in roaded access for developed recreation site and trail access since these opportunities  
21041 are generally located along major travel routes. These major travel routes would typically be  
21042 improved or rerouted (instead of decommissioned) to correct resource concerns in order to ensure  
21043 continued access to the Forest's recreation infrastructure. However, the proposed reduction in road  
21044 density would likely reduce access to dispersed recreation opportunities such as hunting, fishing,  
21045 camping, driving for pleasure, and gathering forest products. Since most dispersed recreation  
21046 activities can be enjoyed throughout the Forest, localized road closures would likely result in users  
21047 shifting their access needs to nearby roads. However, in key watersheds, where road  
21048 decommissioning would be emphasized, road closures could reduce roaded access for dispersed  
21049 recreation use to a level that would displace recreationists to other parts of the Forest in order to  
21050 participate in the same dispersed recreation activities.

21051 At the Forest scale, the effect of decommissioning approximately 400 miles of road over a 20-year  
21052 period would be a gradual decrease in roaded access for recreation use. The impact of this decrease  
21053 in roaded access for recreation use would be focused on dispersed recreation opportunities and  
21054 would be expected to be more obvious in riparian areas associated with key watersheds.  
21055 Implementation of alternative P would likely result in greater impacts to roaded access for recreation  
21056 than the no-action alternative and alternatives B and O. Alternative P would have similar affects to  
21057 roaded access as alternative R.

21058 **Recommended Wilderness**

21059 Alternative P recommends 6 percent (68,300 acres) of the Forest as additional wilderness, including  
21060 the following inventoried potential wilderness areas (PWAs): Salmo-Priest Adjacent, Abercrombie-  
21061 Hooknose, and the portion of the Bald Snow PWA located south of Snow Peak Cabin, which  
21062 corresponds with tributaries to South Fork O'Brien Creek and South Fork Sherman Creek. For a  
21063 comparison of potential wilderness area acreage by alternative, see table 197. Each of the PWAs in  
21064 this alternative were evaluated by the forest plan revision team according to the process identified in

21065 FSH 1909.12 Chapter 70 and determined to contribute to the capability, availability, and need for  
21066 additional wilderness in the Okanogan Highlands ecoregion. At least one PWA under this alternative  
21067 would be recommended as potential wilderness in each of the three counties located within the  
21068 Forest's boundary.

21069 This alternative attempts to balance the public's desire for additional wilderness with existing  
21070 backcountry recreation opportunities such as mountain biking and OHV riding. As a result, not all of  
21071 the Forest's PWAs that have wilderness qualities were recommended as wilderness in this  
21072 alternative. Instead, alternative P retains 54,577 acres (5 percent of the Forest) of backcountry for  
21073 motorized recreation opportunities, and 123,100 acres (11 percent of the Forest) of backcountry for  
21074 recreation opportunities that do not conform with wilderness management direction such as  
21075 mountain biking, rental cabins and historic structure maintenance. See table 194 for a comparison of  
21076 backcountry and backcountry motorized management acres by alternative.

21077 In addition, this alternative recommends approximately 82,800 acres be included in a recreation  
21078 special interest area along the Kettle Crest in Ferry County that would include the Profanity, northern  
21079 part of the Bald-Snow, Hoodoo, and Twin Sisters PWAs. This SIA would provide for the existing  
21080 outstanding motorized and non-motorized recreation values associated with the Kettle Crest region  
21081 while also maintaining many of the existing wilderness qualities that make these PWAs popular with  
21082 both motorized and non-motorized recreationists. Within the SIA, PWAs would be managed as either  
21083 backcountry (Profanity, Bald-Snow, and Hoodoo) or backcountry motorized (Twin Sisters) and all  
21084 existing recreation opportunities would be retained. Acres attributable to the SIA are included in the  
21085 backcountry and backcountry motorized acres listed in this paragraph.

21086 Under this alternative, non-conforming recreation opportunities and motorized trail maintenance and  
21087 reconstruction activities would be allowed to continue until Congress designates the recommended  
21088 wilderness areas as wilderness. No new non-conforming uses would be allowed. Even with the  
21089 continuation of non-conforming uses, the wilderness qualities associated with the recommended  
21090 wilderness areas listed in alternative P are not expected to be altered prior to designation as  
21091 wilderness by Congress. This determination is based on the fact that the existing non-conforming  
21092 uses were identified during the 2009 PWA evaluation process and their presence did not preclude the  
21093 roadless areas from meeting the evaluation criteria (capability, availability, and need) for inclusion  
21094 on the inventory of potential wilderness areas. Therefore, allowing these non-conforming uses to  
21095 continue at use rates similar to when the wilderness evaluations were completed should not detract  
21096 from the inherent wilderness qualities associated with the three PWAs.

21097 The PWAs that would be designated as backcountry motorized management areas in this alternative  
21098 include Owl Mountain, Jackknife, Twin Sisters, South Huckleberry and Lost Creek. Combined, these  
21099 PWAs would provide access to all of the Forest's existing backcountry motorized trail systems. As a  
21100 result, there would be no loss of existing summer motorized recreation use if this alternative was  
21101 implemented.

21102 Implementation of alternative P would designate thirteen PWAs as backcountry management areas  
21103 including: northern part of Bald-Snow, Bodie Mountain, Clackamas Mountain, Cougar Mountain,  
21104 Deer Creek, Grassy Top, Hall Mountain, Harvey Creek, Hoodoo, Jackson Creek, Quartzite, South  
21105 Fork Mountain and Thirteenmile. Combined, these PWAs contain approximately 53 miles of  
21106 backcountry mountain bike trail opportunities. However, if the recommended wilderness areas listed  
21107 in this alternative become wilderness, mountain bike trail opportunities would no longer be available  
21108 on 68,300 acres across the Forest. This equates to approximately a 90-mile (30 percent) reduction in  
21109 the number of available mountain bike trail opportunities that are associated with the Forest's  
21110 existing summer non-motorized trail system. As a result, alternative P provides the third highest

21111 number of mountain bike trail miles of all the alternatives. For a comparison between alternatives of  
21112 backcountry management acres open to mountain biking and the number of trail miles open to  
21113 mountain biking, see table 195. Managing these PWAs as backcountry would also allow the Forest to  
21114 continue to manage its only backcountry recreation rental cabin and to maintain a popular historic  
21115 fire lookout.

21116 If the recommended wilderness areas listed under alternative P are designated as wilderness by  
21117 Congress, trail maintenance and reconstruction costs could increase on the 90 miles of trail that  
21118 access the 68,300 acres of recommended wilderness. This cost increase is based on the required  
21119 change from using motorized (chainsaws, power toters, trail dozers, etc.) trail maintenance  
21120 equipment to non-motorized equipment (cross-cut saws, pack mules, pulaskis, etc.) which would  
21121 likely result in annual tasks, such as spring logout, and reconstruction efforts taking more time to  
21122 complete, additional people, or both.

21123 Implementation of alternative P would prohibit over-snow vehicle use on 91,579 acres currently  
21124 open to over-snow vehicle recreation opportunities in the no-action alternative as a result of an  
21125 increase in acres associated with backcountry (semi-primitive non-motorized), research natural area,  
21126 and recommended wilderness management areas as well as changes in designated winter range.  
21127 However, the majority of the additional acres that would be closed to over-snow vehicle use under  
21128 alternative P consist of heavily vegetated slopes and terrain that is difficult to access and currently  
21129 supports only limited over-snow vehicle recreation opportunities. Therefore, implementation of  
21130 alternative P would result in little to no reduction in the amount of over-snow vehicle recreation  
21131 opportunities available on the Forest when compared to the no-action alternative. For a comparison  
21132 of acres open to over-snow vehicle recreation opportunities by alternative, see table 192.

## 21133 **Alternative B**

21134 Alternative B emphasizes two management areas (MA) that focus on forest vegetation; the  
21135 Restoration MA, which emphasizes old forests, and the Active MA, which emphasizes timber  
21136 production. These are generally the Focused Restoration and General Restoration Management Areas  
21137 in the proposed action and other alternatives. The Regional Forester's Forest Plan Amendment #2  
21138 (Eastside Screens) from the existing forest plan provides direction for managing vegetation.

21139 This alternative also responds to those advocating for increased wilderness and to public concerns  
21140 that the amount and location of summer and winter motorized use may impact aquatic, riparian and  
21141 wildlife habitats. Alternative B provides for the highest acreage of recommended wilderness across  
21142 all alternatives and the least amount of summer motorized and non-motorized backcountry recreation  
21143 opportunities.

21144 Input from the Northeast Washington Forestry Coalition's alternative on vegetation, road, aquatic  
21145 management and wilderness recommendations are included in this alternative. Proposed  
21146 management not provided in the coalition's alternative comes from the proposed action.

21147 The following summarizes the effects to recreation resources associated with the implementation of  
21148 alternative B. Issues analyzed include the identification of lands suitable for recreation, motorized  
21149 recreation trails, access, and recommended wilderness.

21150 Alternative B retains the recreation suitability determinations completed as part of the 1988 Colville  
21151 National Forest Land and Resource Management Plan for summer and winter motorized and non-  
21152 motorized recreation opportunities. Changes would be made to the Forest's Recreation Opportunity  
21153 Spectrum (ROS) map to accurately reflect decreases in the Semi-Primitive Motorized ROS class and

21154 increases in the Semi-Primitive Non-Motorized ROS classes (a result of increases in acres associated  
21155 with recommended wilderness) and to reflect the increase in the Roaded Natural ROS class that  
21156 resulted from the absorption of the ROS sub-class of Roaded Modified in the 1988 forest plan into  
21157 the Roaded Natural ROS classification in the Revised Forest Plan. The number of summer  
21158 motorized recreation trail miles would be reduced by 22 percent (along with alternative R, this  
21159 represents the largest reduction in motorized trail miles of all the action alternatives) and the acres of  
21160 backcountry motorized recreation management areas would be reduced by 51 percent (the largest  
21161 reduction in acres of the action alternatives) when compared to the existing condition.

21162 Alternative B also reduces the Forest's existing backcountry jeep trail system from 39 miles of trail  
21163 to zero. Access for recreation would continue to be affected through project specific decisions based  
21164 on improving resource and habitat conditions. Road decommissioning would be expected to continue  
21165 at a rate similar to recent years across the Forest and should result in little or no change in the  
21166 public's ability to participate in a variety of summer and winter dispersed and developed recreation  
21167 opportunities across the Forest. Alternative B includes the highest number of recommended  
21168 wilderness acres, the lowest number of backcountry management area acres, and the lowest number  
21169 of backcountry motorized management area acres of the six alternatives. Non-conforming wilderness  
21170 uses would not be allowed to continue in recommended wilderness prior to designation as wilderness  
21171 by Congress. Some existing backcountry recreation opportunities would no longer be available on  
21172 the Forest (rental cabin, jeep trails). The miles of trail open to mountain biking would be reduced (a  
21173 direct result of additional recommended wilderness areas), resulting in the lowest number of miles  
21174 open to mountain biking when compared to the other alternatives. Motorized equipment for trail  
21175 maintenance and reconstruction would no longer be permitted on approximately 221 miles of trail  
21176 accessing recommended wilderness, resulting in a potential increase in trail maintenance and  
21177 reconstruction costs across the Forest. Opportunities for over-snow vehicle recreation would be  
21178 reduced when compared to the no-action alternative as a result of the large increase in acres  
21179 associated with recommended wilderness. As a result, alternative B provides the second lowest  
21180 number of acres open to over-snow vehicle recreation opportunities when compared to the other  
21181 alternatives.

## 21182 Identification of Lands Suitable for Recreation Use

21183 Alternative B retains the recreation suitability determinations made in the 1988 Colville National  
21184 Forest Land and Resource Management Plan (as amended) for summer and winter motorized and  
21185 non-motorized recreation opportunities. All of the recreation activities and opportunities provided for  
21186 in the 1988 Plan would continue to be available under alternative B, but may not be available in all  
21187 of the same locations as under the no-action alternative. For a comparison between alternatives of  
21188 management areas suitable for summer and winter motorized and non-motorized recreation  
21189 opportunities, see table 190.

21190 Under alternative B, changes would be made to the Forest's Recreation Opportunity Spectrum (ROS)  
21191 map to accurately reflect decreases in the Semi-Primitive Motorized ROS class and increases in the  
21192 Semi-Primitive Non-Motorized ROS classes (a result of increases in acres associated with  
21193 recommended wilderness) and to reflect the increase in the Roaded Natural ROS class that resulted  
21194 from the absorption of the ROS sub-class of Roaded Modified in the 1988 forest plan into the  
21195 Roaded Natural ROS classification in the Revised Forest Plan. Recreation opportunities would still  
21196 be available in a variety of ROS classes across the Forest including semi-primitive non-motorized,  
21197 semi-primitive motorized, roaded natural, and rural, representing a broad array of natural settings,  
21198 managerial, and social environments in which users could participate in their preferred activities. The  
21199 Recreation Opportunity Spectrum (ROS) class acreages for each alternative are summarized in table  
21200 196.



Implementation of alternative B would provide both the second lowest number of total Forest acres open to winter over-snow vehicle recreation opportunities and the second lowest number of total Forest acres open to summer motorized recreation opportunities when compared to the other alternatives. Total Forest acres open to non-motorized recreation opportunities remains fairly consistent (within 3,000 acres) amongst all the alternatives. For a comparison of the number of acres open to winter over-snow vehicle recreation opportunities by alternative, see table 192. For a comparison of the number of acres open to summer motorized and non-motorized recreation opportunities by alternative, see table 194.

#### Motorized Recreation Trails

Compared to the no-action alternative, alternative B decreases the miles of summer motorized recreation trails and increases the miles of summer non-motorized recreation trails available on the Forest. Under this alternative, approximately 142 miles of summer trail would be managed for motorized recreation opportunities and 382 miles of summer trail would be managed for non-motorized recreation opportunities. Converting 39 miles of motorized trail to a non-motorized classification results in a 22 percent decrease in the existing number of summer motorized recreation trail miles and an increase of 10 percent in the existing number of summer non-motorized recreation trail miles. For a comparison of summer trail miles managed for motorized and non-motorized recreation opportunities by alternative, see table 193. Implementation of alternative B would provide a reduced number of managed ATV and motorcycle trail opportunities across the Forest and would eliminate all of the Forest's existing trail opportunities (39 miles) associated with four wheel drives greater than 50 inches wide (jeep trails). Implementation of alternative B would increase the number of summer non-motorized recreation trail opportunities including hiking and pack and saddle stock use as compared to the number of non-motorized recreation trail opportunities in the no-action alternative.

Alternative B also decreases the spatial distribution of motorized recreation trail opportunities across the Forest as well as the availability of backcountry motorized trail opportunities. Unlike the no-action alternative which provides a mix of summer motorized and non-motorized trail opportunities throughout all three counties, alternative B would only provide a mix of summer motorized and non-motorized trail opportunities in Stevens and Pend Oreille Counties. In Ferry County, 39 miles of motorized trail would be converted to non-motorized trail, leaving only 1.4 miles (less than one percent of the total trail miles in the County) of motorized trail available within the County. The number of backcountry acres open to motorized use would be reduced from 13,571 acres in the no-action alternative to 6,606 acres in alternative B. This equates to a 51 percent reduction in backcountry areas open to motorized recreation trails. Similarly, total acres open to summer motorized recreation trail opportunities across the Forest would be reduced from 904,561 acres in the no-action alternative to 839,565 acres in alternative B. This represents a 7.3 percent reduction in the number of acres available for summer motorized recreation trail opportunities across the Forest. Summer non-motorized recreation trail opportunities would be allowed on nearly 100 percent of the Forest's land base (excluding RNAs) and the opportunity for trails to exist in a non-motorized setting (includes backcountry, wilderness, and recommended wilderness management areas) would increase from 118,330 acres in the no-action alternative to 256,602 acres in alternative B, an increase of 217 percent. For a comparison of management area acres open to motorized and non-motorized recreation trail opportunities, see table 194.

Across the Forest, there is currently a greater opportunity to access summer non-motorized recreation trails than summer motorized recreation trails. See discussion under the no-action and proposed action alternatives that supports this statement. Implementation of alternative B would further shift the opportunity for summer trail access toward non-motorized trail activities since it

would increase the number of non-motorized trail miles and acres of backcountry open to non-motorized trail use while reducing the number of motorized recreation trail opportunities and motorized backcountry management areas. This is especially true in Ferry County where motorized recreation trail opportunities would be reduced to a single 1.4-mile segment of trail.

## Access

Under alternative B, the Forest's road system would be capped at approximately 4,000 miles for the entire Forest. No roads would be allowed to be added to the Forest's road system unless an equal distance was decommissioned. Road management decisions would be based on the need for public access, safety, forest management and resource needs. Decisions on road decommissioning would be made at the project level based on information provided by resource specialists and recommendations contained in the Forest's most recent Travel Analysis Report pursuant to subpart A of the 2005 Travel Management Rule. During these project level discussions, reductions in road density could be proposed to meet resource needs that would reduce roaded access for recreation uses. The level of effect associated with reducing road density would be dependent on the length of open system roads that would be proposed for decommissioning—the greater the length, the greater the potential reduction in roaded recreation access. However, if Maintenance Level 1 roads—those roads already closed to vehicle use by the public—are selected for decommissioning instead of open system roads, then there would be a corresponding reduction in the potential loss of open road access for recreation use. Similarly, roads decommissioned in riparian areas would have a greater impact on roaded access for recreation use than those located in upland areas since most recreation use on the Forest occurs in riparian areas associated with lakeshores, rivers, and streams. A reduction in open road density would reduce access to dispersed recreation opportunities such as hunting, fishing, camping, driving for pleasure, and gathering of forest products. However, since most dispersed recreation activities can be enjoyed throughout the Forest, localized road decommissioning would likely result in users shifting their dispersed recreation access needs to nearby roads in order to participate in the same dispersed recreation activities resulting in little to no reduction in the public's participation in or access to dispersed recreation opportunities on the Forest.

Under alternative B, a reduction in roaded access for trail and developed site recreation opportunities would not be anticipated since these opportunities are generally located along major travel routes. These major travel routes would typically be improved or rerouted (instead of decommissioned) to correct resource concerns in order to ensure continued access to the Forest's developed recreation infrastructure.

Implementation of alternative B would likely result in fewer impacts to roaded access for recreation than alternatives R and P which have a desired condition for road density of 1 to 2 miles per square mile and could result in a greater reduction in system roads, especially in key watersheds and watersheds where the existing road densities are above the desired condition. Alternative B would have similar effects on roaded access for recreation as the proposed action, which has a desired condition for road density of 2 to 3 miles per square mile, which is close to the existing condition (at the Forest scale) for most watersheds. Alternative B would have a similar effect on roaded access for recreation as the no-action alternative and alternative O, which do not have a desired condition for road density.

## Recommended Wilderness

Alternative B recommends 20 percent (220,330 acres – the highest amount of all alternatives) of the Forest be recommended as additional wilderness, including all the inventoried potential wilderness areas (PWAs) on the Forest except for Lost Creek. For a comparison of potential wilderness acreage

21293 by alternative, see table 197. Based on the Northeast Washington Forestry Coalition’s wilderness  
21294 recommendations, this alternative also recommends as additional wilderness those portions of the  
21295 Bodie Mountain, Clackamas Mountain, Jackson Creek, Grassy Top, and South Fork Mountain PWAs  
21296 that are located primarily on adjacent Forests. By Forest Service policy, those PWAs located  
21297 primarily on adjacent forests that would not meet the minimum acreage requirements necessary to be  
21298 recommended as wilderness on the Colville National Forest alone would typically be evaluated for  
21299 wilderness recommendation through the Idaho Panhandle and Okanogan-Wenatchee National  
21300 Forests respective forest plan revision processes. The preferred alternative for the Idaho Panhandle  
21301 forest plan revision process did not support the South Fork Mountain or Grassy Top PWAs as  
21302 recommended wilderness and the Okanogan-Wenatchee forest plan process did not support the  
21303 Jackson Creek, Bodie Mountain, and Clackamas Mountain PWAs as recommended wilderness in its  
21304 proposed action for forest plan revision. Each of the PWAs in this alternative were evaluated by the  
21305 forest plan revision team according to the process identified in FSH 1909.12 Chapter 70 and  
21306 determined to contribute to the capability, availability, and need for additional wilderness in the  
21307 Okanogan Highlands ecoregion. Under alternative B, at least two PWAs would be recommended as  
21308 wilderness in each of the counties in which the Forest is located.

21309 This alternative recommends a large increase in wilderness and provides few opportunities for other  
21310 motorized and mechanized backcountry recreation opportunities on the Forest. Several PWAs that  
21311 contain well-established non-conforming uses (i.e., motorized trails, rental cabin, and mountain bike  
21312 use) that may detract from the wilderness qualities associated with the various PWAs are  
21313 recommended as wilderness in alternative B. This alternative designates 6,606 acres (0.6 percent of  
21314 the Forest) of backcountry for motorized recreation opportunities and an additional 4,835 acres  
21315 (0.4 percent of the Forest) of backcountry for recreation opportunities that do not conform with  
21316 wilderness management direction, such as mountain biking. See table 194 for a comparison of  
21317 backcountry and backcountry motorized management acres by alternative. Under alternative B,  
21318 recreation opportunities that would not conform to wilderness management direction (mountain  
21319 biking, motorized trail use, motorized trail maintenance and reconstruction, historic structure  
21320 maintenance and rental cabin management) would not be allowed to continue prior to congressional  
21321 designation of the recommended wilderness areas as wilderness. As a result, the Forest’s only  
21322 backcountry cabin rental would be closed to the public and, over time, removed from the landscape.  
21323 Likewise, a recently renovated historic fire lookout would be managed to a standard compatible with  
21324 wilderness designation and may be allowed to slowly deteriorate over time. Since existing recreation  
21325 opportunities that would not conform to wilderness management direction would not be allowed  
21326 prior to wilderness designation, there would be little chance that the wilderness qualities associated  
21327 with these recommended wilderness areas would be altered by existing non-conforming recreation  
21328 uses prior to their designation as wilderness by Congress.

21329 Under alternative B, the Lost Creek PWA would be designated as the Forest’s only backcountry  
21330 motorized management area. The three existing trails in this PWA are currently open to motorcycles  
21331 only. The result of implementing alternative B would be a 39-mile (100 percent) reduction in  
21332 backcountry motorized trail miles that are currently open to ATVs and 4-wheel drives greater than  
21333 50 inches wide. Overall, this alternative would result in approximately a 70 percent decrease in the  
21334 number of existing backcountry summer motorized recreation trail miles on the Forest.

21335 Under this alternative, only those inventoried roadless areas included in the 2001 Roadless Rule  
21336 inventory (Bangs, Dry Canyon Breaks) that would not meet the minimum acreage requirements to be  
21337 recommended as wilderness would be designated as backcountry management areas. As a result,  
21338 backcountry mountain bike trail opportunities would be eliminated on 220,330 acres across the  
21339 Forest. This equates to a 221 mile (73 percent) reduction in the number of available mountain bike

21340 trail miles associated with the Forest's summer non-motorized trail system. For a comparison  
21341 between alternatives of backcountry management acres open to mountain biking and the number of  
21342 trail miles open to mountain biking, see table 195.

21343 Under alternative B, once the Forest Plan is approved and implemented, trail maintenance and  
21344 reconstruction costs could increase on the 221 miles of trail that access the 220,330 acres of  
21345 recommended wilderness. This cost increase is based on the required change away from using  
21346 motorized (chainsaws, power toters, trail dozers, etc.) trail maintenance equipment to non-motorized  
21347 equipment (cross-cut saws, pack mules, pulaskis, etc.) which would likely result in annual tasks,  
21348 such as spring logout, and reconstruction efforts taking more time to complete, additional people, or  
21349 both.

21350 Implementation of alternative B would prohibit over-snow vehicle use on 122,652 acres currently  
21351 open to over-snow vehicle recreation opportunities in the no-action alternative as a result of the  
21352 increase in acres associated with recommended wilderness, RNAs, and winter range. Approximately  
21353 55,000 acres of backcountry associated with the Twin Sisters, Jackknife, Owl Mountain, and South  
21354 Huckleberry PWAs are open to over-snow vehicles in the no-action alternative and offer 39 miles of  
21355 jeep trails (these trails are neither designated nor groomed for over-snow vehicle use) that are  
21356 currently available for over-snow vehicle use. Implementation of alternative B would prohibit this  
21357 use. As a result, implementation of alternative B would result in a high reduction in over-snow  
21358 vehicle recreation opportunities across the Forest when compared to the no-action alternative. For a  
21359 comparison of acres open to over-snow vehicle recreation opportunities by alternative, see Table  
21360 192.

## 21361 **Alternative O**

21362 Alternative O emphasizes summer and winter motorized and non-motorized opportunities in an  
21363 unroaded backcountry setting and minimizes recommended wilderness. In addition, the Kettle Crest  
21364 Recreation Special Interest Area (SIA) is proposed to address public disagreement about  
21365 recommending this area for wilderness. Participants in the Colville Collaborative group that worked  
21366 on forest plan issues around wilderness and vegetation management agreed that the Kettle Crest was  
21367 a special area for semi-primitive recreation opportunities, but did not agree that the area should be  
21368 wilderness because of the impacts to recreation opportunities such as mountain biking and OHV  
21369 riding as well as motorized trail maintenance. The proposed Kettle Crest Recreation Special Interest  
21370 Area (SIA) was added as a component of this alternative to address public disagreement about  
21371 recommending this area for wilderness. The backcountry and backcountry motorized management  
21372 areas within the SIA would be managed to maintain their existing wilderness qualities while  
21373 allowing for non-wilderness recreation activities to continue, such as mountain biking, OHV riding,  
21374 and use of a rental cabin, in a semi-primitive setting.

21375 This alternative proposes two management areas to address vegetation management: the Restoration  
21376 MA to restore the historic range of variation, and the Responsible MA that emphasizes timber  
21377 production. The total percentage of the Forest allocated to vegetation management—72 percent—is  
21378 similar to the B alternative's 73 percent, though the O alternative has a greater percentage in the  
21379 Restoration MA than the B alternative.

21380 This alternative comes from a series of public, collaborative meetings run by the Forest Service that  
21381 focused on motorized recreation, wilderness recommendations, and vegetation management and  
21382 reflects areas of general agreement among participants in those meetings. The Forest Service fully  
21383 developed this alternative using the proposed action to fill in the gaps not addressed in the  
21384 collaborative process.

The following summarizes the effects to recreation resources associated with the implementation of alternative O. Issues analyzed include the identification of lands suitable for recreation, motorized recreation trails, access, and recommended wilderness.

Alternative O retains the recreation suitability determinations completed as part of the 1988 Colville National Forest Land and Resource Management Plan for summer and winter motorized and non-motorized recreation opportunities. Changes would be made to the Forest's Recreation Opportunity Spectrum (ROS) map to accurately reflect increases in Semi-Primitive Motorized and Semi-Primitive Non-Motorized ROS classes (a result of increases in acres associated with recommended wilderness, Backcountry and Backcountry Motorized Management Areas) and to reflect the increase in the Roaded Natural ROS class that resulted from the absorption of the ROS sub-class of Roaded Modified in the 1988 forest plan into the Roaded Natural ROS classification in the Revised Forest Plan. The number of summer motorized recreation trail miles would remain the same and the acres of backcountry motorized recreation management areas would increase when compared to the existing condition. This alternative would provide the greatest number of summer motorized trail miles (along with alternative P, the proposed action, and no action) and the third most acres managed for backcountry motorized recreation. Access for recreation would continue to be affected through project specific decisions based on improving resource and habitat conditions. Road decommissioning would be expected to continue at a rate similar to recent years across the Forest and should result in little or no change in the public's ability to participate in a variety of summer and winter dispersed and developed recreation opportunities across the Forest. Alternative O includes the second lowest number of recommended wilderness acres, the highest number of backcountry management area acres, and the third highest number of backcountry motorized management area acres of the six alternatives. In addition, this alternative includes approximately 99,000 acres of primarily backcountry and backcountry motorized management areas that would be designated as a Recreation Special Interest area along the Kettle Crest. Non-conforming wilderness uses would be allowed to continue in recommended wilderness until the areas are designated as wilderness by Congress. All backcountry recreation opportunities would continue across the Forest. However, the miles of trail open to mountain biking would be reduced minimally (a direct result of additional recommended wilderness areas), resulting in the second highest number of miles open to mountain biking when compared to the other alternatives. Once the recommended wilderness areas are designated as wilderness by Congress, motorized equipment for trail maintenance and reconstruction would no longer be permitted on approximately 29 miles of trail. Opportunities for over-snow vehicle recreation would be reduced as a result of an increase in acres associated with backcountry (semi-primitive non-motorized), research natural area, and recommended wilderness management areas as well as increases in designated winter range. Alternative O offers the second highest number of acres open to over-snow vehicle recreation opportunities when compared to the other alternatives.

#### Identification of Lands Suitable for Recreation Use

Alternative O retains the recreation suitability determinations made in the 1988 Colville National Forest Land and Resource Management Plan (as amended) for summer and winter motorized and non-motorized recreation opportunities. All of the recreation activities and opportunities provided for in the 1988 Plan would continue to be available under alternative O, but may not be available in all of the same locations as under the no-action alternative. For a comparison between alternatives of management areas suitable for summer and winter motorized and non-motorized recreation opportunities, see table 190.

Under alternative O, changes would be made to the Forest's Recreation Opportunity Spectrum (ROS) map to accurately reflect increases in Semi-Primitive Motorized and Semi-Primitive Non-Motorized ROS classes (a result of increases in acres associated with recommended wilderness,

21432 Backcountry and Backcountry Motorized Management Areas) and to reflect the increase in the  
21433 Roaded Natural ROS class that resulted from the absorption of the ROS sub-class of Roaded  
21434 Modified in the 1988 forest plan into the Roaded Natural ROS classification in the Revised Forest  
21435 Plan. Recreation opportunities would still be available in a variety of ROS classes across the Forest  
21436 including semi-primitive non-motorized, semi-primitive motorized, roaded natural, and rural,  
21437 representing a broad array of natural settings, managerial, and social environments in which users  
21438 could participate in their preferred activities. The Recreation Opportunity Spectrum (ROS) class  
21439 acreages for each alternative are summarized in table 196.

21440 Implementation of alternative O would provide both the second highest number of total Forest acres  
21441 open to winter over-snow vehicle recreation opportunities and the second highest number of total  
21442 Forest acres open to summer motorized recreation opportunities when compared to the other  
21443 alternatives. Total Forest acres open to non-motorized recreation opportunities remains fairly  
21444 consistent (within 3,000 acres) amongst all the alternatives. For a comparison of the number of acres  
21445 open to winter over-snow vehicle recreation opportunities by alternative, see table 192. For a  
21446 comparison of the number of acres open to summer motorized and non-motorized recreation  
21447 opportunities by alternative, see table 194.

#### 21448 Motorized Recreation Trails

21449 Alternative O would maintain the same number of motorized and non-motorized trail opportunities  
21450 across the Forest as the no-action alternative. Under this alternative, approximately 181 miles of  
21451 summer trail would be managed for motorized uses and 342 miles of summer trail would be  
21452 managed for non-motorized uses. For a comparison of summer trail miles managed for motorized  
21453 and non-motorized recreation opportunities by alternative, see table 193. Trails managed for  
21454 motorized use would continue to provide opportunities for ATVs, motorcycles, and 4-wheel drives  
21455 greater than 50 inches wide (jeep trails). Trails managed for summer non-motorized use would  
21456 continue to provide opportunities for hiking, mountain biking, and pack and saddle use.  
21457 Implementation of alternative O would result in no change in the number of miles or the types of  
21458 managed motorized and non-motorized recreation trail opportunities on the Forest as compared to  
21459 the no-action alternative.

21460 Alternative O would also maintain the spatial distribution of existing summer motorized trail  
21461 opportunities across the Forest and would continue to provide the existing mix of summer motorized  
21462 and non-motorized trail systems within each of the three counties in which the Colville National  
21463 Forest is located. Alternative O would increase the number of backcountry acres managed for  
21464 summer motorized trail use from 13,571 acres in the no-action alternative to 53,734 acres. This  
21465 equates to almost a 400 percent increase in backcountry acres that would be managed for summer  
21466 motorized trail use. The additional backcountry motorized management acres would include all of  
21467 the existing summer motorized backcountry trail opportunities on the Forest. Overall, summer  
21468 motorized trail recreation opportunities would be allowed on 873,957 acres (80 percent) across the  
21469 Forest. Summer non-motorized recreation trail opportunities would be allowed on nearly 100 percent  
21470 of the Forest's land base (excluding RNAs) and the opportunity for trails to exist in a non-motorized  
21471 setting (including backcountry, wilderness, and recommended wilderness management areas) would  
21472 equal 221,702 acres, equaling 20 percent of the Forest's land base. For a comparison of management  
21473 area acres open to motorized and non-motorized recreation trail opportunities, see table 194.

21474 Under alternative O, there would be a greater opportunity to access summer non-motorized  
21475 recreation trails than summer motorized recreation trails for several reasons. First, the number of  
21476 non-motorized trail miles would outnumber motorized trail miles by nearly 2 to 1. Second, the acres  
21477 available for summer backcountry non-motorized trail opportunities would outnumber the acres

available for summer backcountry motorized trail opportunities by 167,968 acres. Third, additional non-motorized trails could be constructed anywhere on the Forest (except research natural areas - RNAs) under alternative O, while summer motorized recreation trails could only be located outside of wilderness, recommended wilderness, RNAs, and backcountry management areas, which reduces the potential Forest acreage available for new summer motorized trail opportunities by 20 percent as compared to new non-motorized trail opportunities. Fourth, the summer motorized trail opportunities in alternative O are geographically limited to remote areas of eastern Ferry County and the border between Stevens and Pend Oreille Counties while this alternative's summer non-motorized trail opportunities are located fairly evenly across the Forest, with many of them easily accessible by passenger vehicle from communities adjacent to the Forest.

## Access

Under alternative O, the Forest's road system would be capped at approximately 4,000 miles for the entire Forest. No roads would be allowed to be added to the Forest's road system unless an equal distance was decommissioned. Road management decisions would be based on the need for public access, safety, forest management and resource needs. Decisions on road decommissioning would be made at the project level based on information provided by resource specialists and recommendations contained in the Forest's most recent Travel Analysis Report pursuant to subpart A of the 2005 Travel Management Rule. During these project level discussions, reductions in road density could be proposed to meet resource needs that would reduce roaded access for recreation uses. The level of effect associated with reducing road density would be dependent on the length of open system roads that would be proposed for decommissioning—the greater the length, the greater the potential reduction in roaded recreation access. However, if Maintenance Level 1 roads—those roads already closed to vehicle use by the public—are selected for decommissioning instead of open system roads, then there would be a corresponding reduction in the potential loss of open road access for recreation use. Similarly, roads decommissioned in riparian areas would have a greater impact on roaded access for recreation use than those located in upland areas since most recreation use on the Forest occurs in riparian areas associated with lakeshores, rivers, and streams. A reduction in open road density would reduce access to dispersed recreation opportunities such as hunting, fishing, camping, driving for pleasure, and gathering of forest products. However, since most dispersed recreation activities can be enjoyed throughout the Forest, localized road decommissioning would likely result in users shifting their dispersed recreation access needs to nearby roads in order to participate in the same dispersed recreation activities resulting in little to no reduction in the public's participation in or access to dispersed recreation opportunities on the Forest.

Under alternative O, a reduction in roaded access for trail and developed site recreation opportunities would not be anticipated since these opportunities are generally located along major travel routes. These major travel routes would typically be improved or rerouted (instead of decommissioned) to correct resource concerns to ensure continued access to the Forest's developed recreation infrastructure.

Implementation of alternative O would likely result in fewer impacts to roaded access for recreation than alternatives R and P which have a desired condition for road density of 1 to 2 miles per square mile and could result in a greater reduction in system roads, especially in key watersheds and watersheds where the existing road densities are above the desired condition. Alternative O would have similar effects on roaded access for recreation as the proposed action, which has a desired condition for road density of 2 to 3 miles per square mile, which is close to the existing condition (at the Forest scale) for most watersheds. Alternative O would have a similar effect on roaded access for recreation as no action and alternative B, which do not have a desired condition for road density.

## Recommended Wilderness

Alternative O recommends 1.5 percent (15,950 acres—the second lowest amount of the alternatives) of the Forest as additional wilderness including the Salmo-Priest Adjacent PWA. For a comparison of potential wilderness acreage by alternative, see table 197. This PWA was evaluated by the forest plan revision team according to the process identified in FSH 1909.12 Chapter 70, and it was determined that it contributed to the capability, availability, and need for additional wilderness in the Okanogan Highlands ecoregion. This alternative recommends additional wilderness in Pend Oreille County only. No PWAs would be recommended as wilderness in Ferry or Stevens Counties. If the recommended wilderness area becomes wilderness, this alternative would concentrate the Forest's wilderness recreation opportunities into the extreme northeastern corner of the Forest.

This alternative strives to maintain all of the existing motorized, mechanized (mountain bike), and non-motorized recreation opportunities on the Forest while providing for a limited amount of additional wilderness area. As a result, the majority of PWAs on the Forest that have wilderness qualities were not recommended as wilderness in this alternative. Instead, alternative O would designate 53,734 acres (5 percent of the Forest) of backcountry for motorized recreation opportunities and an additional 174,311 acres (16 percent of the Forest) of backcountry for non-motorized recreation opportunities that do not conform with wilderness management direction such as mountain biking, use of recreation rental cabins and maintenance of historic structures. See table 194 for a comparison of backcountry and backcountry motorized management acres by alternative. In addition, this alternative recommends approximately 99,000 acres be included in a recreation special interest area along the Kettle Crest in Ferry County that would include the Profanity, Bald-Snow, Hoodoo, and Twin Sisters PWAs. This SIA would provide for the existing outstanding motorized and non-motorized recreation values associated with the Kettle Crest region while also maintaining many of the existing wilderness qualities that make these PWAs popular with both motorized and non-motorized recreationists. Within the SIA, PWAs would be managed as either backcountry (Profanity, Bald-Snow, and Hoodoo) or backcountry motorized (Twin Sisters) and all existing recreation opportunities would be retained. Acres attributable to the SIA are included in the backcountry and backcountry motorized acres listed in this paragraph.

Under this alternative, recreation opportunities that do not conform with wilderness management direction, as well as motorized trail maintenance and reconstruction, would be allowed to continue in the Salmo-Priest Adjacent recommended wilderness area until Congress designates the recommended wilderness area as wilderness. No new non-conforming uses would be allowed. Even with the continuation of non-conforming uses, the wilderness qualities associated with the recommended wilderness areas listed in alternative O are not expected to be altered prior to designation as wilderness by Congress. This determination is based on the fact that the existing non-conforming uses were identified during the 2009 PWA evaluation process and their presence did not preclude the roadless areas from meeting the evaluation criteria (capability, availability, and need) for inclusion on the inventory of potential wilderness areas. Therefore, allowing these non-conforming uses to continue at use rates similar to when the wilderness evaluations were completed should not detract from the inherent wilderness qualities associated with the PWA.

The PWAs that would be designated as backcountry motorized management areas in this alternative include Owl Mountain, Jackknife, Twin Sisters, South Huckleberry and Lost Creek. Combined, these PWAs would provide access to all of the Forest's existing backcountry motorized trail systems. As a result, implementation of alternative O would result in no change in the amount of summer motorized recreation trail opportunities when compared to the no-action alternative.



Under this alternative, fifteen PWAs would be designated as backcountry management areas including: Abercrombie-Hooknose, Bald Snow, Bodie Mountain, Clackamas Mountain, Cougar Mountain, Deer Creek, Grassy Top, Hall Mountain, Harvey Creek, Hoodoo, Jackson Creek, Profanity, Quartzite, South Fork Mountain, and Thirteenmile. Combined, these PWAs contain the majority of backcountry mountain bike trail opportunities on the Forest. However, if the Salmo-Priest Adjacent recommended wilderness area listed in this alternative becomes wilderness, mountain bike trail opportunities would be eliminated from 15,950 acres across the Forest. This equates to approximately a 29 mile (10 percent) reduction in the number of available mountain bike trail opportunities that are associated with the Forest's existing summer non-motorized trail system. As a result, this alternative would provide the second highest amount of mountain bike trail miles of all the alternatives. For a comparison between alternatives of backcountry management acres open to mountain biking and the number of trail miles open to mountain biking, see table 195. Managing these PWAs as backcountry, instead of wilderness, would also allow the Forest to continue to manage its only backcountry rental cabin and to maintain a popular historic fire lookout.

If the recommended wilderness areas listed under alternative O are designated as wilderness by Congress, trail maintenance and reconstruction costs could increase on the 29 miles (the lowest mileage increase of all the alternatives) of trail that access the 15,950 acres of recommended wilderness. This cost increase is based on the required change from using motorized (chainsaws, power toters, trail dozers, etc.) trail maintenance and reconstruction equipment to non-motorized equipment (cross-cut saws, pack mules, pulaskis, etc.) which would likely result in annual tasks, such as spring logout, and reconstruction efforts taking more time to complete, additional people, or both.

Implementation of alternative O would prohibit over-snow vehicle use on 90,513 acres currently open to over-snow vehicle recreation opportunities in the no-action alternative as a result of an increase in acres associated with backcountry (semi-primitive non-motorized), research natural area, and recommended wilderness management areas as well as changes in designated winter range. However, the majority of the additional acres that would be closed to over-snow vehicle use under Alternative O consist of heavily vegetated slopes and terrain that is difficult to access and currently supports only limited over-snow vehicle recreation opportunities. Therefore, implementation of alternative O would result in little to no reduction in the amount of over-snow vehicle recreation opportunities available on the Forest when compared to the no-action alternative. For a comparison of acres open to over-snow vehicle recreation opportunities by alternative, see table 192.

## **Cumulative Effects (Common to All Alternatives)**

### **Past, Present, and Foreseeable Activities Relevant to Cumulative Effects Analysis**

No major changes in recreation management on lands adjacent to the Colville National Forest were identified that would contribute to cumulative effects.

The affected environment for cumulative effects includes those lands covered by the management plans for the Confederated Tribes of the Colville Reservation and the Kalispel Indian Reservation lands, lands administered by the Okanogan-Wenatchee and Idaho Panhandle National Forests, other Federal and State lands, and lands of other ownerships both within and adjacent to the Colville National Forest boundary. Recreation management of adjacent forests and other lands adjacent to the Colville National Forest is expected to continue unchanged from current management practices. As a result, there are no past, present, or reasonably foreseeable major changes in recreation management on lands adjacent to the Colville National Forest that would contribute to cumulative effects.

## Scenery

This scenery analysis provides an overview of the scenic resources of concern, and focuses on the issues likely to affect the scenic resources including Old Forest Management and Timber Production, Motorized Recreation Trails, Access, Recommended Wilderness, Wildlife, and Riparian and Aquatic Resource Management.

## Affected Environment

### Scenic Resources

Scenic quality is an important amenity in our lives. People's interests and expectations regarding ecosystems help establish desired aesthetic conditions for the varied landscapes. Scenery provides the setting for all activities experienced by forest visitors. Forest scenery is an integral part of the larger landscape and way of life in northeast Washington. Forestlands provide a scenic backdrop for travel, work, play, and daily life. Forest scenery contributes to casual and inexpensive recreation experiences near home, and contributes to a general sense of well-being, security, and constancy. Many people point to their tie to the landscape, regardless of administration or ownership, as a major reason for living in northeast Washington.

Beyond the local level, the scenery of northeast Washington is a factor in drawing new and return tourists to the area, as well as contributing to people's decisions to move to northeastern Washington. In addition to influencing choices in where people visit and settle, scenic conditions can influence how people perceive the health of ecosystems and can be an indicator of whether or not management practices are successful.

Scenic landscapes are an important forest resource valued by many people. National Forest System lands are places where many people go to escape urban environments and immerse themselves in natural-appearing environments. People's definition of the national forest is largely based on landscape images from their own experiences in the forest or images conveyed to them by the media. They have expectations regarding the content and form of forest landscapes; therefore, it is important to realize that the designation of scenic landscapes is based on cultural values and perceptions of nature. Landscapes that are culturally perceived as having high scenic quality are generally associated with sustainable ecosystems; however, not all sustainable ecosystems are perceived as landscapes with high scenic quality. Some high quality landscapes are a result of past human activity. Regardless of whether a scenic landscape is a result of natural processes or past human activity, it is a resource whose aesthetic qualities should be maintained and/or enhanced. To ensure that landscapes are both highly scenic and ecologically sustainable, scenic integrity objectives and scenic resource management objectives related to landscape character, sense of place, scenic integrity and scenic stability (sustainability) as outlined in the Scenery Management System (SMS), would be compatible with other forest resource management objectives.

The SMS is a systematic approach to inventory, analyze, and monitor the scenic resources. The system is used in the context of ecosystem management to determine the relative value and importance of scenery, assist in establishing overall resource objectives, and ensure high-quality scenery for future generations. The Colville National Forest uses *Landscape Aesthetics - A Handbook for Scenery Management* (Dept. of Agriculture Handbook #701) to inventory scenic resources for the forest plan revision. Landscape Character, Scenic Integrity and Scenic Sustainability (Stability) are the three basic building blocks of SMS. Understanding the valued attributes of the landscape and their condition from a social and ecologic perspective is the framework to all SMS application.

**Some important concepts relative to scenery include:**

SMS recognizes natural disturbance processes such as fire, insects, and disease, to be part of the natural landscape and play an important role in maintaining healthy, sustainable, and scenic landscapes. These disturbance regimes are evaluated as part of an evolving landscape and can create positive changes to the scenery integrity of a landscape. A more diverse mosaic of vegetation, increased species diversity, and diversity of age classes are all potential results of natural disturbance processes that would be compared with positive attributes defined in desired landscape character descriptions. SMS planning also recognizes that without these disturbance processes, the likelihood of catastrophic events is increased and the resulting landscape would likely not meet established desired conditions for vegetation, scenery, or other natural resources.

SMS recognizes ecological processes and the resulting landscapes as a dynamic ecosystem. Instead of basing objectives for scenery on one landscape condition at one point in time, the objectives are linked to a range of conditions that link to the historic range of variability. Long-term results as opposed to immediate results are considered when analyzing the effects to scenic resources. For instance, immediately after a fire, there are short-term effects such as red needles, burned trunks, snags, and possibly little or no understory vegetation. Depending on the intensity of the fires, these effects are often short-term (one or two years). As the landscape recovers, the short-term effects diminish and long-term changes such as: mosaic of vegetation patterns, snags punctuating the new growth canopies, and variety in colors and textures begin to appear. These changes add interest and diversity to the landscape and the effects to the scenic resources are considered positive by most people.

SMS recognizes that some man-made components of a landscape contribute to the landscape's valued character and are considered as positive attributes to the overall scenic quality. This premise is different from the Visual Management System (VMS) where most human-made features were considered a negative impact to the natural environment. SMS recognizes that some human-made features add to the aesthetics of certain landscapes and are identified as positive attributes of those landscapes. Examples of human-made features that may be identified as valued, positive cultural attributes include: reservoirs, old barns, historic log cabins, split rail fencing, agricultural or rural settings, ghost towns, etc.

The following describes the existing condition for the Colville National Forest landscape character and sense of place, scenic integrity and scenic stability (sustainability).

**Landscape Character and Sense of Place**

The Colville National Forest contains a complex and diverse range of landscapes. The landscape character is highly unique across the entire forest with a variety of landscape patterns consisting of large scale patterns of vegetation and sense of place zones, landform of geologic features such as rocky peaks and outcrops, canyons, steep cliffs and talus slopes, and water form features of marshes, streams, rivers, potholes, ponds, lakes, and waterfalls unique to a specific landscape character type. At the regional scale, the Forest is characterized as Okanogan Highlands landscape character type. The Okanogan Highlands character type is generally rolling terrain of moderate slopes with broad rounded summits. Scattered peaks rise well above the general terrain dividing the area into several upland areas separated by a series of broad north-south river valleys. The western edge has a series of large flats and plateaus.

Sense of place is addressed to display how the area is perceived by the public, and to display the physical setting in which the project area lies. The sense of place definition is "The identity of a place created by people's social meanings and attachments, including valued scenery and recreation

21702 settings, cultural and spiritual values, economic, social and biophysical characteristics.” Managers  
 21703 using the concept of sense of place must define a specific framework for the definition and use of  
 21704 sense of place. Place based planning recognizes that people are part of the natural environment, and  
 21705 integrates peoples’ values into environmental planning. The sense of place zones document how  
 21706 people value the forest landscape and are displayed in a map at the beginning of desired landscape  
 21707 character descriptions included in Appendix A of the specialist report. District meetings were  
 21708 conducted across the Forest going through a sense of place process to develop a geographic spatial  
 21709 map. The Forest specialists interviewed various Forest staff and involved the public at 12 meetings to  
 21710 further refine the sense of place values. Sense of place varies in scale; the entire forest would fall into  
 21711 a regional scale while the watershed scale is more of the community scale. Given the large size of the  
 21712 Forest, over 1 million acres, the forest was separated into five sense of place areas in order to  
 21713 comprehensively/adequately describe the scenic resources. Since scenery is intrinsically linked to  
 21714 biological and hydrological processes, the sense of place zones are divided according to watershed  
 21715 boundaries. The five zones are Okanogan Highlands, Salmo Priest Remote Dispersed, East of Kettle  
 21716 Crest, West of Kettle Crest and Front Country Dispersed.

21717 The landscape character types experienced at the community scale that are more relevant to the  
 21718 Colville National Forest user and sense of place ranges from the Okanogan Highlands and Salmo  
 21719 Priest Remote Dispersed landscape area at north eastern corner near the Canadian border and Idaho  
 21720 border, to the middle zone landscape areas of East of Kettle Crest, West of Kettle Crest, Front  
 21721 Country Dispersed and the Okanogan Highlands at the western edge of the Forest. Sense of place  
 21722 based planning recognizes that people are part of the natural environment, and integrates peoples’  
 21723 values into defining landscape character based on how people use the landscape and are tied to the  
 21724 land. The Salmo-Priest Wilderness area contributes to world-class scenery and has its own sense of  
 21725 place and as presented in the Wilderness narrative.

21726 In addition to the physical environment, Forest Service facilities evoke a strong sense of identity  
 21727 across all sense of place zones. The Rocky Mountain Province style contributes to the historic and  
 21728 cultural landscape character and defines sense of place and rustic style. “Rustic Style: In the first half  
 21729 of this century, the National Park Service and the Forest Service adapted the rustic style, which had  
 21730 been developed from models such as Swiss chalets and 19th century Adirondack lodges. Influential  
 21731 examples include the Old Faithful Inn at Yellowstone (1904 and the Timberline Lodge on Mt. Hood  
 21732 (1937). Rustic-style buildings, often built by the CCC, are highly crafted structures featuring native  
 21733 stone and unhewn logs. The scale of details can be massive, even in the cases of kiosks or cabins.  
 21734 The rustic style was popularized in the 1900-to-1940 era by resort developers like Averill Harriman,  
 21735 who called Sun Valley, Idaho, the St. Moritz of America. In the Rocky Mountain Province, the public  
 21736 associates images of rustic style lodges with recreation” (BEIG. Pg. 4-6). Remnants of Civilian  
 21737 Conservation Corps “CCC” era facilities such as ranger stations, guard stations, work stations, and  
 21738 fire lookouts are highly valued with destination areas such as Log Flume and White Mountain,  
 21739 Growden CCC Historic Site, Columbia Mountain Lookout and Mill Pond being important. All  
 21740 “CCC” era developed recreation facilities of picnic shelters/stoves/rock barrier walls, etc. at  
 21741 numerous campgrounds located across the Forest contribute to the landscape character. In addition,  
 21742 Native American usage has occurred throughout the landscape for over 7,000 years providing a  
 21743 social and cultural connection to the vegetation and landform through time especially related to  
 21744 salmon fishing, hunting and plant gathering in traditional areas. Mineral exploration and production  
 21745 has been substantial in areas as well as logging, cattle grazing, and human settlement patterns that  
 21746 contribute to the cultural and social valued landscape character. In particular, homesteading has left  
 21747 behind visual evidence of settlement patterns and remains of cabins in remote areas are fairly  
 21748 common to see.

The sense of place tied to the scenic landscape setting for the Colville National Forest is tied to year round recreational experiences; accessing developed recreation sites of campgrounds, day use sites, boat launch facilities, trails and trailheads offering motorized and non-motorized opportunities. The Pacific Northwest National Scenic Trail is a regional draw and traverses east to west along the northern end of the Forest. A large portion of the sense of place for the Forest is tied to the “big backyard” experience people seek with a variety of year round seasonal recreation activities that occur with dispersed camping, hunting, sight-seeing, driving for pleasure, huckleberry picking, mountain biking, equestrian riding, snowmobile riding, cross-country skiing, snowshoeing, wildlife viewing, fall color viewing, and other dispersed use.

## Scenic Classes

Scenic attractiveness is the primary indicator of the intrinsic scenic beauty of a landscape and of the positive response it evokes in people. Based on commonly held perceptions of the beauty of landform, vegetation pattern, composition, surface water characteristics, and land use patterns and cultural features, the scenery is rated on a three-point scale:

- Class A – Distinctive, where landform, vegetation patterns, water characteristics and cultural features combine to provide unusual, unique or outstanding scenic quality.
- Class B – Typical, where landform, vegetation patterns, water characteristics and cultural features combine to provide ordinary or common scenic quality.
- Class C – Indistinctive, where the landscape does not have characteristics that add to the variety, unity, vividness, mystery, intactness, order, harmony or uniqueness of the scenery.

The scenic attractiveness rating is applied to the process of evaluating the value of the area’s scenery resource. Inherent scenic attractiveness within the landscape character and sense of place zones were validated from the inventory done for the Colville Forest Plan in 1988 and carried forward to this current plan revision. The existing Variety Class map was developed through the Visual Management System and is available in hard copy inventory. This inventory was used to identify concern levels for landscape travel corridors on the Colville National Forest. This inventory was supplemented with new information gained through constituent assessment to express scenic integrity concerns and general biophysical impressions by scientists to express ecological integrity concerns. The existing visual concern level 1 and 2 roads and trails were reviewed on a map in an interdisciplinary team setting to determine the need for change. Specialists updated visual sensitivity level corridors to meet current need and desired condition in order to depict new concern level travel corridors. In addition to using the original sensitivity level maps, the updated ROS layer, the new Sense of Place layer, the updated IRA layer and the updated recreation sites, wild and scenic river, and scenic byway layers were used to determine scenic values. New areas identified of scenic concern were sent through IRM to map Seen Areas. An example of a new travel route with a high level of concern is Flowery Trail which was assigned a concern level 1. Several GIS maps were adjusted over the process to determine the concern levels for roads. These draft map exercises are available as project background support dated June 13, 2007, July 16, 2007; August 7, 2007; November 6, 2007; November 14, 2007; and November 19, 2007. A decision was made by the Forest Revision Team Leader to assign concern levels to only nationally designated recreation or scenic trails for the mapping. The remaining trails would assume the SIO for the proposed management areas where they go through and to address the foreground of all trails to be managed for a High SIO in a narrative format for standards, guidelines and objectives.

Across the forest there are areas rated as Scenic Attractiveness Class A – Distinctive, where landform, vegetation patterns, water characteristics and cultural features combine to provide unusual, unique or outstanding scenic quality. Class A landscape types include all Wilderness, Recommended

Wilderness, Proposed Wild and Scenic Rivers, Scenic Byways, Backcountry Areas, Research Natural Areas and Special Interest Areas. Some outstanding landform features include Hoodoo Canyon, Bodie Mountain and the Kettle Crest Range. Examples of Class A and Class B water forms include Sullivan Lake, Peewee Falls, the Wedge and Little Pend Oreille Lakes and numerous small lakes in the upper elevations. All Proposed Wild and Scenic Rivers such as the Kettle River and Salmo River add distinct variety and are rated Class A. Most of the big backyard areas are representative of Scenic Attractiveness Class B – Typical, where landform, vegetation patterns, water characteristics and cultural features combine to provide ordinary or common scenic quality. There are areas characterized as Scenic Attractiveness Class C – Indistinctive, where the landscape does not have characteristics that add to the variety, unity, vividness, mystery, intactness, order, harmony or uniqueness of the scenery. Class C areas would be found in the lower elevation foothills outside of the forested environment where the terrain has little topographic relief and no apparent variation in areas of similar vegetation, waterforms are often not visually apparent.

Vegetation within the Colville National Forest reflects a diverse, resilient, and dynamic landscape that has been shaped by both natural and human disturbances. Natural disturbances, from insects and diseases, fires, winds, floods, or landslides, all contribute to an ever-changing patchwork of structure and species composition at various scales on the landscape. Human disturbances result from land use choices that include cattle grazing, timber harvest, road construction, water diversions or dams, or species introductions that also influence the ever-changing patchwork of structure and species across the landscape. Combined natural disturbances and human disturbances influence the dynamic line, form, color, and texture features of the landscape. Vegetation on the forest scale is highly variable with a wide number of species. Five categories have been identified to help in understanding the relationships within and between vegetation communities and how these interactions create scenic landscapes. Each of these vegetation groups contributes to distinct scenic values that support a variety of human uses. The five categories are Douglas-fir Dry, Northern Rocky Mountain Mixed Conifer, Spruce/Subalpine fir, Subalpine Fir/Lodgepole pine, Western redcedar/Western hemlock. In addition, several understory/ground cover habitat types contribute to unique landscape character that include Alpine and Subalpine Vegetation, Montane Herbaceous, Montane Shrubland, Riparian Shrub and Deciduous Forest and Wetland/Riparian Herbaceous. The vegetation character is furthered described in the Desired Landscape Character Descriptions in appendix A of the specialist report.

## Scenic Integrity

Scenic integrity is the amount of human-caused deviation in form, line, color, and texture of a landscape. Scenic integrity serves as a frame of reference for measuring scenic integrity levels based on the valued attributes of the existing landscape character being viewed. The degrees of integrity vary from VERY HIGH to VERY LOW. Scenic integrity was measured on the Colville National Forest through Visual Quality Objective levels defined by the USFS Visual Management System's Chapter 1 USDA Handbook # 462.

The **Existing Scenic Integrity** (Condition) identifies temporary deviations (-) from the landscape character of a particular place and is a general indicator or impression of ecological conditions and/or trends that puts valued landscape character attributes at risk. (Very High, High, Moderate, Low, Very Low). The highest scenic integrity ratings are given to those landscapes where the valued landscape attributes appear complete and little or no visible deviations are evident. Scenic Integrity is used to describe both existing (Existing Scenic Integrity) and desired (Scenic Integrity Objective) conditions. (*Landscape Aesthetics, A Handbook for Scenery Management, USDA, FS HB 701, page 2-1*).

21839 The following table displays the six scenic integrity objectives and conditions associated with each  
21840 level (how people perceive them). Table 198. Scenic Integrity and Condition. (USDA FS, 1995,  
21841 Landscape Aesthetics, p A-1)

21842 **Table 198. Scenic integrity objectives**

Scenic Integrity Objective (SIO)	Definition
Very High	Landscape is intact with only minor changes from the valued landscape character associated with significant scenic landscapes. This SIO is typically (but not exclusively) associated with specially designated areas such as wilderness or other designations that imply the landscape is natural appearing and only ecological changes occur.
High	Management activities are unnoticed and the landscape character <i>appears</i> unaltered.
Moderate	Management activities are noticeable but are subordinate to the landscape character. The landscape appears Slightly altered
Low	Management activities are evident and sometimes dominate the landscape character but are designed to blend with surroundings by repeating line, form, color, texture of landscape character attributes. The landscape appears altered.
Very Low	Management activities create a “heavily altered landscape.” Changes may strongly dominate the landscape.
Unacceptably Low (Not a management objective, used for inventory only)	Management activities create an extremely altered landscape. Deviations are extremely dominant and borrow little if any form, line, color, texture, pattern or scale from the landscape character. Landscapes at this level of integrity need rehabilitation.

21843 The Colville National Forest has a full range of scenic integrity levels from Very High, to High,  
21844 Moderate, Low and Very Low; Wilderness and Recommended Wilderness is Very High.

### 21845 Scenic Stability (Sustainability)

21846 Scenic stability/sustainability is the ability of an ecosystem to maintain ecological processes and  
21847 functions, biological diversity and productivity over time. The general health of the forest contributes  
21848 to scenic resources, where uncharacteristic wildfire and insect and disease outbreaks can alter the  
21849 natural appearance in areas where the ecosystem is out of the historical range of variability.

21850 The Landscape Aesthetics Handbook 701 speaks to achieving landscape character goals by designing  
21851 a transition strategy that moves the existing landscape character to the desired landscape character.  
21852 During this Forest Planning process the mapping of where the desired landscape character is not  
21853 represented on the ground is not necessary to the development of suitability layers primarily from  
21854 vegetation and fire resources. The development of a map that depicts where the existing landscape  
21855 character deviates from the desired landscape character simply documents the information for later  
21856 use at the project level. While the time line necessary for reaching that goal “should exclude  
21857 excessive increments of change” (SMS pg.5-9), the needed changes can be identified and tracked  
21858 through the use of a mapping layer. This layer is a “working layer” that would be utilized at the  
21859 project level, it would not be a fixed or static layer in time and can be revised as the landscape  
21860 character changes through either project implementation of management activities (i.e., vegetation  
21861 thinning, prescribed burning, closing and restoring roads) or natural occurring events (i.e., wildfire,  
21862 flooding, landslides).

In landscape areas where an ecosystem is out of the historical range of variability the forest setting may exist at a lower scenic integrity during treatment activity and recovery in order to restore and sustain the landscape character to the assigned Scenic Integrity Objective (SIO). An example of an area that is identified on the enhancement layer are the Wildland Urban Interface (WUI) areas. Most of these areas are now allocated to the Retention Visual Quality Objective (VQO), and would likely have a High Scenic Integrity Objective (SIO) in the Forest Plan. Because the identified WUI areas may not be sustainable due to past fire suppression causing fuel buildups and now under fire risk to communities, developed recreation facilities, and concentrated use areas, treatments need to occur not only to make them safer, but to also sustain the landscape character and scenic integrity in the future. This area would then be one that would be allowed to exist in a lower scenic integrity state in the short term while treatments were occurring in order to bring it to a sustainable state that can be maintained in the long term. During the transition period, there would be variations of high, moderate, to low scenic integrity levels across the WUI landscape while treatments were occurring, as to not have the whole landscape existing in a low scenic integrity level. The landscape character to be perpetuated would be a mosaic character, the areas of moderate to high landscape character would be coordinated and compatible with meeting other natural resource goals of leaving wildlife or riparian corridors and retaining landscape patches of varying scales. The Landscape Architect would be assisting Silviculturists, Fire and Fuels planners and the interdisciplinary team in developing prescriptions to come up with acceptable methods and treatments that would accomplish all goals.

A new scenery indicator has been developed for use within the USFS Scenery Management System (applied in this analysis according to procedures described in the August 30, 2007 Appendix J of the SMS Handbook #701). Scenic stability is the degree to which the desired scenic character can be sustained through time and ecological progression. The existing scenic stability analysis focuses on the single major scenery attribute of vegetation, addressing its ecosystem conditions identified by field observation and Fire Regime Condition Class (FRCC) 7 coarse-scale data on vegetation and fire history data. Ecosystem changes to other minor scenery attributes such as landform, rock outcrops, and winter snowfall are not as critical to the Colville Forest area's scenic character as its vegetation, since these changes are relatively stable over time regardless of fire behavior and human activities.

Evaluating scenic stability is done by considering conditions necessary to sustain desired scenic character of stands within the natural and historic range of the landscape. Appropriate stand density, species composition, and fuel loads are necessary for stands to maintain the inherent characteristics through their lifecycle. When trends such as increasing stand density, encroachment of less resilient species, increasing fuel loads, and high levels of mortality exist, the expected consequences are change in the scenic character that are beyond the historic scale. Examples of these consequences are large canopy openings from intense wildfires, large stands of dead and dying timber, and loss of distinctive characteristic such as open, large tree character pine stands and multi-layered mixed species stands. Gradual trends over time have altered the species composition, stand structure, and age classes of the forest vegetation. Stands of large mature ponderosa pine that provide an open forest are diminished due to encroaching mixed conifer species, and past harvest practices that removed pine to release shade tolerant species.

The analysis to determine scenic stability would need to be done at the project level since the landscape is dynamic and conditions change. Tree density needs to be determined at the project level to integrate range of natural or historic variability.

Scenic stability levels are defined as follows:



- 21908 **Very High Stability**—All dominant and minor scenery attributes of the valued scenic character  
21909 are present and are likely to be sustained.
- 21910 **High Stability**—All dominant scenery attributes of the valued scenic character are present and  
21911 are likely to be sustained. However, there may be scenery attribute conditions and ecosystem  
21912 stressors that present a low risk to the sustainability of the dominant scenery attributes.
- 21913 **Moderate Stability**—Most dominant scenery attributes of the valued scenic character are  
21914 present and are likely to be sustained. A few may have been lost or are in serious decline.
- 21915 **Low Stability**—Some dominant scenery attributes of the valued scenic character are present and  
21916 are likely to be sustained. Known scenery attribute conditions and ecosystem stressors may  
21917 seriously threaten or have already eliminated the others.
- 21918 **Very Low Stability**—Most dominant scenery attributes of the valued scenic character are  
21919 seriously threatened or absent due to their conditions and ecosystem stressors and are not likely  
21920 to be sustained. The few that remain may be moderately threatened but are likely to be sustained.
- 21921 **No Stability**—All dominant scenery attributes of the valued scenic character are absent or  
21922 seriously threatened by their conditions and ecosystem stressors. None are likely to be sustained,  
21923 except relatively permanent attributes such as landforms.
- 21924 The greatest hazard to scenery resources are large stand replacement fires that would burn much  
21925 more intensely due to the stocking levels, species compositions, ladder fuels and canopy closure that  
21926 have developed over time, and large epidemics of insect or disease. The fire regime condition classes  
21927 rate these factors and give an indication of the potential for fire intensity.
- 21928 **Condition Class:** Condition class is a description of how far “current conditions” have deviated  
21929 from historical conditions. Three condition classes have been developed to categorize the current  
21930 condition with respect to each of the five historic fire regime groups. Current conditions are a  
21931 function of the degree of departure from historical fire regimes resulting from alterations of key  
21932 ecosystem components such as; species composition, vegetation structural stage, stand age, and  
21933 canopy closure. The higher the condition class number the higher the relative risk of fire, insect, or  
21934 disease caused losses to natural resources and other key ecosystem components. A higher condition  
21935 class rating or percent from departure shows a higher risk of loss to key ecosystem components  
21936 landscape wide.
- 21937 The three condition classes are:
- 21938 • Condition Class 1: Fire regimes are within or near historical ranges, and the risk of losing  
21939 key ecosystem components is low.
  - 21940 • Condition Class 2: Fire regimes have been moderately altered from their historical range.  
21941 The risk of losing key ecosystem components is moderate.
  - 21942 • Condition Class 3: Fire regimes have been significantly altered from their historical range.  
21943 The risk of losing key ecosystem components is high.
- 21944 **Existing Scenic Stability Summary**
- 21945 The considerations to the stability of scenery resources are to be determined at the project level  
21946 where project stand conditions related to departure from historical fire regimes and tree density  
21947 levels are determine overstocked conditions. The following ratings apply to scenic stability levels of  
21948 very high, high, moderate, low, very low and no stability:

21949 The **FRCC 1 (Low)** corresponds to the definitions for “High” and “Very High” Scenic Stability  
21950 levels described above. Both classifications have scenery attribute conditions that are within the  
21951 range of natural or historic variability.

21952 **FRCC 2 (Moderate)** corresponds to the definitions for “Moderate and Low” scenic stability. Both  
21953 classifications include conditions outside the range of natural or historic variability.

21954 **FRCC 3 (High)** corresponds to the definitions for “Very Low” and “No” Scenic Stability. They are  
21955 far beyond the range of natural or historic variability.

## 21956 **Need for Change**

### 21957 **Old Forest Management and Timber Production**

21958 In the revision of the forest plan, three broad scale concerns drove the need to consider how we  
21959 address old forest management, especially the current reserve system approach at the landscape  
21960 scale. These are:

- 21961 • The recent history of uncharacteristic levels of disturbances resulting from fire and insect  
21962 and disease activity that would likely continue into the future.
- 21963 • The interaction between disturbances and climate change that elevates the importance of  
21964 restoring landscape resiliency.
- 21965 • Uncertainty about the recovery and viability of old forest-dependent species given the  
21966 increased risk of uncharacteristically severe disturbances that is likely to be exacerbated by  
21967 climate change impacts.

21968 The proposed action describes management of old forest vegetation by providing desired structural  
21969 stage distribution for multi and single strata old forest across the landscape. To meet the large tree  
21970 desired conditions, old trees and enough of the younger larger trees would be retained. Retention of  
21971 large, younger trees that are in the best condition and are not limiting growth of nearby old trees  
21972 through resource competition would be prioritized. Desired conditions for old forest habitats would  
21973 be at, or toward, the high end of the range of variability (considering historical and future variability)  
21974 within areas that are capable of providing old forest habitat structures. Desired conditions would be  
21975 described by conifer dominated vegetation group. Habitat capable areas would include the following  
21976 forest series: Douglas-fir, grand fir, western hemlock, and Pacific silver fir. If habitat amounts were  
21977 not currently available, areas would be identified for future old forest habitat. The proposed action  
21978 does not zone the Forest into reserves and matrix or general forest.

21979 The proposed action also describes details for providing old forest habitat for specific surrogate  
21980 wildlife species (e.g., American marten, northern goshawk, and northern spotted owls).

### 21981 **Motorized Recreation Trails**

21982 The current forest plan provides direction for summer and winter motorized uses, including  
21983 identifying areas where such use may not be authorized or is limited, mainly for protection of  
21984 aquatic, plant, and wildlife habitats.

21985 The proposed action would continue to provide recreational access on National Forest System lands  
21986 and a wide range of recreational opportunities while limiting or prohibiting winter and summer  
21987 motorized activities in certain areas in order to provide quality aquatic, plant, and wildlife habitat.  
21988 Other areas, such as wilderness, are closed to motorized use to provide a range of recreational  
21989 experience.

21990 The goal for recreation settings and experiences would include providing a spectrum of high quality,  
21991 nature-based outdoor recreational settings where visitors access the Forest, including access to the  
21992 biological, geological, scenic, cultural, and experiential resources of the Forest. Where the visitor's  
21993 outdoor recreational experience involves few conflicts with other users, access is available for a  
21994 broad range of dispersed recreation activities such as dispersed camping, boating, mushroom and  
21995 berry picking, hunting, and fishing and these experiences are offered in an environmentally sound  
21996 manner, are within budget limits, and contribute to the local economy.

21997 It should be noted that the proposed action makes broad, strategic decisions that apply at the  
21998 landscape scale. The 2005 Travel Management Rule prescribed a process for making site-specific  
21999 decisions to designate roads, trails and areas for motorized travel thereby closing undesignated roads,  
22000 trails and areas to motorized use. Over the past few years, travel management planning has occurred  
22001 on the Forest in a separate planning process with the objective of providing a Motor Vehicle Use  
22002 Map showing roads, trails and areas designated for summer motorized use and resulting in the  
22003 closure undesignated roads, trails and areas for summer motorized use.

#### 22004 Access

22005 Three broad concerns drove the need to address road density: (1) the Forest is no longer able to  
22006 afford to properly maintain road system at current operational maintenance levels, (2) the current  
22007 road system is not aligned with current and future resource management objectives, and (3) the  
22008 existing road management direction is confusing and difficult to follow because it is scattered  
22009 throughout current Colville Forest plan, forest plan amendments, national level decisions (the  
22010 Roadless Rule), and interim policy. The current forest plan includes much direction about managing  
22011 the road system.

22012 The proposed action provides a strategic vision to guide the location and overall density of roads in  
22013 the future. It includes management areas that delineate where there is a need to manage for specific  
22014 road densities. These are the Active Restoration Management Areas B and C. These areas have  
22015 aquatic and wildlife habitats that would benefit from reducing the negative impacts of roads by  
22016 managing toward road densities of 2 miles or 3 miles per square mile. A wide spectrum of travelway  
22017 types would be present in Active Restoration B and C, ranging from maintenance level 1 through 5  
22018 roads, or primitive roads to highways. Road densities would include all maintenance levels and be  
22019 measured within each management area within a 5th field watershed.

22020 The proposed action states that the goal is for the Forest to continue to have an access system of  
22021 authorized roads that is safe, affordable, and environmentally sound, that meets obligations to public  
22022 and private cooperators, and is efficient to manage. However, any National Forest System road that  
22023 is not needed to meet resource or social and economic objectives, and/or user-created roads, would  
22024 be decommissioned and the landscape restored.

#### 22025 Recommended Wilderness

22026 By law, all National Forest System lands must be evaluated for possible wilderness recommendation  
22027 during the plan revision process. The result of that evaluation shows whether a need exists for  
22028 additional wilderness and what trade-offs may exist if the area is eventually designated part of the  
22029 national wilderness system.

22030 Currently, the Salmo-Priest Wilderness covers about 3 percent of the Colville National Forest and  
22031 evaluation showed a need for additional wilderness opportunities on the Forest. A review of possible  
22032 areas showed some are available to fill this need. The proposed action considered recommending  
22033 around 101,000 acres of additional wilderness. About 13,500 acres would be recommended for

22034 addition to the existing Salmo-Priest Wilderness and the remaining 87,500 acres would include  
22035 recommending portions of the Abercrombie-Hooknose, Bald Snow, Profanity, and Hoodoo potential  
22036 wilderness areas. All parcels would be managed as recommended wilderness, where existing uses  
22037 would continue until Congress took action on the recommendation.

22038 The proposed action shares information on the national approach to managing any recommended  
22039 wilderness, which is that, prior to congressional designation, uses continue that do not compromise  
22040 wilderness eligibility. When congressional designation is complete, these areas are managed  
22041 according to the desired conditions for designated wilderness in the forest plan. The proposed action  
22042 clarifies that the following selected activities could continue to be authorized in recommended  
22043 wilderness areas:

- 22044 • Summer off-highway vehicle use and winter motorized use (existing use could continue, but  
22045 no additional use is allowed).
- 22046 • Mechanized uses (existing use could continue, but no additional use is allowed).
- 22047 • Vegetation management activities would not be authorized in recommended wilderness  
22048 areas.

#### 22049 **Wildlife**

22050 The proposed action responds to a recovery plan for grizzly bears in the North Cascades Grizzly  
22051 Bear Recovery Area that was completed in 1997, and outlines the steps needed to recover grizzly  
22052 bears to a viable population level. Two of the recovery steps addressed in the proposed action are:

- 22053 • Designation of management situation areas.
- 22054 • Development of an access management strategy that would replace the interim policy that  
22055 has been in place since 1997.

22056 The access management strategy for the North Cascades Grizzly Bear Recovery Area follows the  
22057 access management guidance provided by the Interagency Grizzly Bear Committee (IGBC). These  
22058 changes pertain only to the portion of the Okanogan-Wenatchee National Forest that lies within the  
22059 North Cascades Grizzly Bear Recovery Area. Core area numbers are included in the proposed action.

22060 The proposed action emphasizes providing habitat connectivity, the need to provide wildlife and  
22061 aquatic crossing structures, and managing activities adjacent to the structures so they are utilized by  
22062 wildlife.

#### 22063 **Riparian and Aquatic Resource Management**

22064 The current forest plan includes riparian management direction from the Interim Strategies for  
22065 Managing Anadromous Fish-Producing Watersheds in Eastern Oregon and Washington, Idaho, and  
22066 portions of California (PACFISH, USDA and USDI 1995), and the Inland Native Fish Strategy  
22067 (INFISH, USDA Forest Service 1994c and 1995). These approaches appear to have either  
22068 maintained or improved riparian and aquatic habitat conditions at the watershed and larger scales.  
22069 The changes presented in the proposed action combined the three separate pieces of direction into  
22070 one place, the revised forest plan, and fulfills the intent of replacing the interim direction (PACFISH  
22071 and INFISH) with longer-term management direction

22072 Riparian management areas are designated in the current forest plan. The proposed action carries  
22073 forward this approach with some changes in widths and more information on desired conditions for  
22074 riparian areas. Generally, the area widths would increase on those lands within the INFISH  
22075 amendment area, for lakes and ponds greater than 1 acre and intermittent streams. Riparian

22076 management areas would remain the same for those areas of the forest within the PACFISH  
22077 amendment area.

22078 Riparian management areas would include portions of watersheds where aquatic and riparian-  
22079 dependent resources receive primary emphasis and where special management direction applies.

22080 Riparian management areas would be designated for all permanently flowing streams, lakes,  
22081 wetlands, seeps, springs and intermittent streams, and unstable sites that may influence these areas.

22082 Objectives for riparian management areas would give emphasis to maintaining or restoring the  
22083 riparian and aquatic structure and function of intermittent and perennial streams, confer benefits to  
22084 riparian-dependent plant and animal species, enhance habitat conservation for organisms that are  
22085 dependent on the transition zone between upslope and riparian areas, contribute to improved water  
22086 quality and flows, and contribute to a greater connectivity of the watershed for both riparian and  
22087 upland species.

22088 Desired conditions for riparian management areas within any given watershed are to have  
22089 compositions of native flora and fauna and a distribution of physical, chemical, and biological  
22090 conditions commensurate with natural processes.

## 22091 **Environmental Consequences**

### 22092 **Methodology**

22093 Risks to scenic resources were identified. Level of risk is assessed using acres or percent of forest  
22094 allocated to a management area that is associated with the risk, either increasing or decreasing the  
22095 risk.

### 22096 *Assumptions*

- 22097 • Assume the budget levels would continue along current trend lines, with the possibility of  
22098 the amount varying by 20 percent plus or minus.
- 22099 • The expected amount of acres treated (prescribed fire or timber harvest) is the same across  
22100 all alternatives.
- 22101 • Use the PNW-GTR-862 prepared by Gaines to guide consideration of climate change.
- 22102 • Under all action alternatives, scenic integrity objectives for management areas and scenery  
22103 plan direction remains the same.

### 22104 *Issue Indicators*

22105 Generally, effects to scenic resources are from visible management changes that can be detected by  
22106 the casual forest visitor. Types of activities that create changes are ground-disturbing activities such  
22107 as road building, mining, construction of facilities, and vegetation management activities, including  
22108 timber harvest. These activities can adversely affect the scenic stability. In addition, the general  
22109 health of the forest contributes to scenic resources, where uncharacteristic wildfire and insect and  
22110 disease outbreaks can alter the natural appearance. Changes in appearance of the landscape character  
22111 can adversely affect a forest visitor's sense of place, or the value of the setting to the visitor. The  
22112 indicators listed in table 199 were used to evaluate each management issue and to develop the  
22113 variations between the alternatives.

22114 **Table 199. Evaluation criteria and key indicators for scenic resources**

Issue	Evaluation Criteria	Key Indicator(s)
Old Forest Management and Timber Production	Evaluate where old forest management would be emphasized on the landscape and the trend of likelihood of uncharacteristic wildfire, and insect and disease outbreaks, and the affect to landscape character and scenic stability.	Proposed vegetation management direction for vegetation in each alternative.
Motorized Recreation Trails	Evaluate change in motorized recreation trails locations and the effect to landscape character, sense of place and scenic stability.	Proposed motorized trail opportunities for each alternative.
Access	Evaluate change in road miles or average road density and the effect to landscape character and scenic stability.	Desired road density or road miles for each alternative.
Recommended Wilderness	Evaluate the change in areas in very high scenic integrity objective and the affect to landscape character, sense of place and scenic stability.	Percent of total forest acreage in recommended wilderness management areas.
Wildlife	Evaluate the change in areas managed for wildlife and the affect to landscape character and scenic stability.	Proposed vegetation management direction for wildlife in each alternative.
Riparian and Aquatic Resource Management	Evaluate the change in areas managed for riparian and aquatic resource management and the affect to landscape character and scenic stability	Proposed riparian and aquatic resource management direction for vegetation in each alternative.

22115 The three indicators used to measure the effects to scenery resources are landscape character, scenic  
 22116 integrity, and scenic stability. These three indicators evaluate the intensity and duration of effects as  
 22117 well as the degree to which the alternatives would affect the stability of scenery attributes over the  
 22118 long term.

- 22119 • Landscape Character is the naturally established landscape pattern in a geographic area that  
 22120 that makes each landscape identifiable or unique. It includes both the visual and cultural  
 22121 values and consists of the combination of physical, biological and cultural attributes that are  
 22122 valued by constituents. (SMS Handbook)
- 22123 • Scenic Integrity is the degree to which the scenery is free from visible disturbances that  
 22124 detract from the natural and socially valued appearance, including disturbances due to  
 22125 human activities or extreme natural events inconsistent with the historic range of variability.  
 22126 (SMS Handbook)
- 22127 • Scenic Stability is the degree to which the Desired Scenic Character can be sustained  
 22128 through time and ecological progression. (SMS Handbook, Appendix J)

## 22129 Spatial and Temporal Context for Effects Analysis

22130 The affected environment for direct and indirect effects is the lands administered by the Colville  
 22131 National Forest. The analysis addresses effects over the life of the plan, which is 10 to 15 years.

22132 **No-action Alternative**

22133 **Old Forest Management and Timber Production**

22134 Risks of uncharacteristic wildfire to scenic resources would continue. The potential for  
22135 uncharacteristically large and severe wildfire disturbance events would continue at present levels and  
22136 is predicted to increase due to climate change. There is likely to be a downward trend ecological  
22137 resilience, especially in the face of climate change scenarios that predict increased occurrence of  
22138 insect and disease outbreaks; and more, larger areas burned by uncharacteristic wildfires. The extent  
22139 and intensity of wildfire is likely to continue or increase over the long-term, which increases risks to  
22140 scenic stability and landscape character.

22141 **Motorized Recreation Trails**

22142 About 6 percent of the forest is in management areas that don't allow motorized trails in a  
22143 backcountry setting (an area without roads.) Due to budget trends, the amount of motorized trail  
22144 access is unlikely to increase significantly in the future, so the changes to scenic resources from  
22145 introducing new trails into areas that currently are not accessible by motorized trail is negligible.

22146 **Access**

22147 Currently, there are about 4,000 miles of National Forest System roads, and about 80 percent of the  
22148 forest is suitable for road construction. The current forest plan includes standards and guidelines that  
22149 limit road densities to between 0.4 to 2 miles per square mile in deer and elk winter range; grizzly  
22150 bear habitat areas; and lynx habitat. Budget trends and need to provide quality wildlife and aquatic  
22151 habitat would likely result in maintaining or reducing the total miles of National Forest System  
22152 roads. Any reduction in roads would reduce risks to scenic stability. Risks to landscape character and  
22153 scenic integrity would remain the same or be slightly reduced over the next 10 years.

22154 **Recommended Wilderness Areas**

22155 There is no recommended wilderness on the forest. The forest has one wilderness area—Salmo-  
22156 Priest—which covers about 3 percent of the total forest area. Landscape character and scenic  
22157 integrity would remain the same.

22158 **Wildlife**

22159 The wildlife habitat would be managed as it currently exists, landscape character and scenic stability  
22160 would remain the same.

22161 **Riparian and Aquatic Resource Management**

22162 The riparian and aquatic resource habitat would be managed as it currently exists, landscape  
22163 character and scenic stability would remain the same or be slightly reduced in areas where negative  
22164 scenic deviations exist.

22165 **Summary of Effects - All Action Alternatives**

22166 Scenic integrity objectives are established for management areas that do not change by alternatives,  
22167 except for where recommended wilderness areas are located. SIO zones overlay the management  
22168 areas. The direction for scenery management applies regardless of the management area boundary.  
22169 Applicability of plan direction is guided by the principle that where there is an overlap of scenery  
22170 management direction with other plan components, the most restrictive plan direction applies

22171 depending on site-specific conditions and the activity or use. The proposed action and alternatives R,  
22172 P, B, and O would result in the following effects.

### 22173 Old Forest Management and Timber Production

22174 The proposed action and alternative P emphasize use of a landscape approach to vegetation  
22175 management expected to result, in the long term, in a Forest more resilient to uncharacteristic  
22176 wildfire, and disease and insect outbreaks. In general, the vegetation management would be spread  
22177 out more on the landscape scale with variable density thinning practices. There is likely to be  
22178 improvement in ecological resilience. Risks of uncharacteristic wildfire to scenic resources would  
22179 decrease. There should be fewer occurrences of uncharacteristic insect and disease outbreaks. The  
22180 risks to scenic stability and landscape character would decrease. In the long term, scenic  
22181 sustainability and resiliency would be improved by managing for the vegetative historical range of  
22182 variability spread over the landscape.

22183 Alternatives R, B, and O emphasize old forest management in fixed reserves and emphasize timber  
22184 production outside those areas. In general, vegetation management would be contained to a smaller  
22185 landscape area with boundaries with a heavier shelterwood type of prescription. This approach is less  
22186 likely to improve ecological resilience in the face of predicted climate change scenarios. Risks of  
22187 uncharacteristic wildfire, and insect and disease outbreaks would likely continue. These alternatives,  
22188 R, B, and O would increase risks to scenic stability and landscape character. In the long term, scenic  
22189 sustainability and resiliency would be reduced by focusing vegetation management in specific areas  
22190 and not on a dynamic landscape scale.

22191 Both wildfires and prescribed fires generate smoke and particulates that can temporarily degrade  
22192 visibility and scenic resources. Effects to air quality from vegetation management, such as prescribed  
22193 burning, are likely to result in short-term impacts to visibility. Each prescribed burn would have  
22194 unique characteristics, and the smoke impacts can be mitigated by following sound smoke  
22195 management practices. Due to budget trends the amount of prescribed burning activity on the forest  
22196 is likely to remain the same. In addition, the amount remains the same for all alternatives. Impacts  
22197 from prescribed burning to scenic stability and landscape character are expected to be small, short-  
22198 term and the same for all alternatives. Also, see discussion in the cumulative effects section.

22199



22200

**Table 200. Effects on scenic resources from vegetation management**

	No Action	Proposed Action	Alt. R	Alt. P	Alt. B	Alt. O
Vegetation Management-landscape approach or fixed reserves Percent of total forest acres for late forest structures Trend for landscape character and scenic stability	Old forest management areas (Fixed reserves) MA-1 and Eastside Screens standard to maintain all late and old seral and/or structural live trees ≥ 21 inches d.b.h.. MA-1 + Eastside Screens incorporate about 3% of the Forest Scenic sustainability and resiliency reduced by focusing vegetation management in specific areas and not on a dynamic landscape scale.	Landscape approach for late forest structures Late forest structures are actively managed for restoration purposes on 71% of the Forest. <b>23% of forest in Focused Restoration areas and 48% in General Restoration areas</b> Scenic sustainability and resiliency improved by managing for the vegetation HRV spread over the landscape	Fixed reserves for late forest structure on 22 % of landscape. <b>22% in General Restoration areas</b> Scenic sustainability and resiliency reduced by focusing vegetation management in specific areas and not on a dynamic landscape scale.	Landscape approach for late forest structure Late forest structures are actively managed for restoration purposes on 67% of the Forest. <b>28% of forest in Focused Restoration areas and 45% in General Restoration areas</b> Scenic sustainability and resiliency improved by managing for the vegetation HRV spread over the landscape	Fixed reserves for late reserve structure on 43% of landscape, limited to dry plant associations only. 25% of each forest stand would remain un-thinned in all treatment units. Eastside Screens standard to maintain all late and old seral and/or structural live trees ≥ 21 inches d.b.h.. Scenic sustainability and resiliency reduced by focusing vegetation management in specific areas and not on a dynamic landscape scale.	Fixed reserves for late forest structure on 39% of landscape, limited to dry plant association only. 25% of each forest stand would remain un-thinned in all treatment units. Eastside Screens standard to maintain all late and old seral and/or structural live trees ≥ 21 inches d.b.h.. Scenic sustainability and resiliency reduced by focusing vegetation management in specific areas and not on a dynamic landscape scale.

	No Action	Proposed Action	Alt. R	Alt. P	Alt. B	Alt. O
Timber Production – percent of total forest acres. Trend for landscape character and scenic stability	Timber management allowed in MA-3A (Recreation), MA-5 (Scenic/Timber), MA-6 (Scenic/Winter Range), MA-7 (Wood/Forage), and MA-8 (Winter Range). These management areas incorporate 80.7% of the Forest. TSPQ 26.9mmbf Scenic sustainability and resiliency reduced by focusing vegetation management in specific areas and not on a dynamic landscape scale.	Timber production allowed in Focused and General Restoration areas which include 71% of the Forest. TSPQ 48.4mmbf Scenic sustainability and resiliency improved by managing for the vegetation HRV spread over the landscape	Timber production allowed in General Restoration areas. These areas include 22% of the Forest. Timber production would not be allowed in late forest structure management areas. TSPQ 9.3 mmbf Scenic sustainability and resiliency reduced by focusing vegetation management in specific areas and not on a dynamic landscape scale.	Timber production allowed in Focused and General Restoration areas which include 71% of the Forest. TSPQ 48.1 mmbf Scenic sustainability and resiliency improved by managing for the vegetation HRV spread over the landscape	The Active Management Area emphasizes even-aged management for timber production on 43% of the Forest. Additional standards limit timber harvest prescriptions. TSPQ 23.7 mmbf Scenic sustainability and resiliency reduced by focusing vegetation management in specific areas and not on a dynamic landscape scale.	The Responsible Management Area emphasizes even-aged management for timber production on 39% of the Forest. Additional standards limit harvest prescriptions. TSPQ 23.8 mmbf Scenic sustainability and resiliency reduced by focusing vegetation management in specific areas and not on a dynamic landscape scale.

22201     **Motorized Recreation Trails**

22202     Motorized recreation trails can have affects to scenic conditions, especially where changes in  
22203     recreation activities can improve or adversely affect landscape character, sense of place and  
22204     scenic integrity for the forest visitor. The proposed action, P and O alternatives would continue  
22205     with current management areas where backcountry motorized or backcountry non-motorized uses  
22206     are allowed. There would be no change to the landscape character, sense of place and scenic  
22207     integrity for the forest visitor under those alternatives. However, in the R and B alternatives all  
22208     but 1 percent of the backcountry motorized area would be allocated to recommended wilderness.  
22209     If congress designates these areas as wilderness, motorized and mechanized uses are not allowed.

22210     These alternatives R and B, would change the landscape character on 20 percent of the Forest for  
22211     the forest visitor. This would be an adverse impact to the motorized recreationist by changing the  
22212     sense of place from destination backcountry motorized landscape character to a non-motorized  
22213     landscape character. Scenic integrity would improve in areas where negative deviations exist  
22214     where motorized impacts occur. Conversely, an improved landscape setting for the non-motorized  
22215     recreationist user would occur by changing the landscape character and adding new sense of place  
22216     from motorized to a more quite non-motorized experience

22217 **Table 201. Effects on scenic resources from motorized recreation**

	<b>No Action</b>	<b>Proposed Action</b>	<b>Alt. R</b>	<b>Alt. P</b>	<b>Alt. B</b>	<b>Alt. O</b>
Backcountry Non-motorized Management Area – percent of total forest acres. Change to landscape character, sense of place and scenic integrity for motorized users	Currently 8% No change to the landscape character, sense of place and scenic integrity for the forest visitor	8% No change to the landscape character, sense of place and scenic integrity for the forest visitor	2% The sense of place would change for motorized users from a destination backcountry motorized landscape character to a non-motorized landscape character. Scenic integrity would improve in areas where negative deviations exist where motorized impacts occur. Conversely, an improved landscape setting for the non-motorized recreationist user would occur by changing the landscape character and adding new sense of place from motorized to a more quite non-motorized experience.	8% No change to the landscape character, sense of place and scenic integrity for the forest visitor	Less than 1 % The sense of place would change for motorized users from a destination backcountry motorized landscape character to a non-motorized landscape character. Scenic integrity would improve in areas where negative deviations exist where motorized impacts occur. Conversely, an improved landscape setting for the non-motorized recreationist user would occur by changing the landscape character and adding new sense of place from motorized to a more quite non-motorized experience.	16% No change to the landscape character, sense of place and scenic integrity for the forest visitor

## Access

Forest roads are typically unpaved and used recreationally and for resource management purposes. Roads create horizontal form, line and color contrasts with the adjacent landscape and can detract from scenic integrity and landscape character, especially when the road density is higher than 1 to 2 miles per square mile. Alternatives with lower road densities would have fewer roads. Alternatives R and P have lower road densities, which would provide the most improvement in landscape character and scenic integrity. The proposed action has a higher road density but would reduce road density in areas where it is higher than 3 miles per square mile. The trend would improve landscape character and scenic integrity. B and O both cap road miles at existing levels which has a range of miles per square mile, either above or below 1 to 2 miles per square mile. In all alternatives, the number of miles of road would trend downward. Alternatives R and P are likely to have the least miles of road in the long term. A reduction in road miles is likely to improve scenic stability and landscape character, so alternatives R and P are likely to improve scenic resources the most among the alternatives

**Table 202. Effects on scenic resources from access**

	<b>Proposed Action</b>	<b>Alt. R</b>	<b>Alt. P</b>	<b>Alt. B</b>	<b>Alt. O</b>
Desired road density range. Effect to landscape character and scenic stability.	2-3 miles per square mile. Applicable in Active Restoration Mgmt. Areas which cover 71% of forest. Road density would be reduced in areas where it is higher than 3 miles per square mile. The trend would improve landscape character and scenic integrity.	1-2 miles per square mile. Applicable in Active Restoration Mgmt. Areas which cover 73% of forest. Most improvement in landscape character and scenic integrity on landscape scale.	1-2 miles per square mile. Applicable in Active Restoration Mgmt. Areas which cover 71% of forest. Most improvement in landscape character and scenic integrity on landscape scale	Cap USFS road miles at current level. Applicable to about 74% of the total Forest Service. Least improvement in landscape character and scenic integrity on landscape scale.	Cap USFS road miles at current level. Applicable to about 74% of the total Forest Service. Least improvement in landscape character and scenic integrity on landscape scale.

## Recommended Wilderness Areas

Areas recommended for wilderness would move from a high scenic integrity objective to very high scenic integrity objective where only ecological changes occur. Ground-disturbing activities would be very limited. If congress designates these areas as wilderness, the scenic integrity objective would be very high and ground-disturbing activities even more limited. R and B recommend the highest amount of Wilderness and largest increase in the amount of very high scenic integrity area on the Forest. In recommended wilderness areas, the experience for visitor uses would be limited to non-motorized uses, but mechanical use (mountain bikes) could continue to occur, changing the sense of place and landscape character for those users similar to the motorized recreation trails management issue. If the recommended wilderness becomes wilderness, the sense of place would change for mountain bike users by eliminating the opportunity and backcountry experience for mechanized use.

22243 **Table 203. Effects on scenic resources from recommended wilderness**

	<b>Proposed Action</b>	<b>Alt. R</b>	<b>Alt. P</b>	<b>Alt. B</b>	<b>Alt. O</b>
Recommended Wilderness – percent of total forest acres. Effect to landscape character, sense of place and scenic stability	9% Slight change to the landscape character, sense of place and scenic integrity for the forest visitor.	19% The sense of place would change in areas for motorized/mechanized users from a destination backcountry motorized landscape character to a non-motorized wilderness landscape character. Scenic integrity would improve in areas where negative deviations exist where motorized impacts occur.	6% Slight change to the landscape character, sense of place and scenic integrity for the forest visitor.	20% The sense of place would change in areas for motorized/mechanized users from a destination backcountry motorized landscape character to a non-motorized wilderness landscape character. Scenic integrity would improve in areas where negative deviations exist where motorized impacts occur.	1% Least change to the landscape character, sense of place and scenic integrity for the forest visitor.

22244 **Wildlife**

22245 Differences in management for wildlife habitat between alternatives are similar to the old forest  
 22246 management and timber production issue, driven by how vegetation is managed. Generally, wildlife  
 22247 management objectives are compatible with landscape character goals and scenic integrity objectives. The  
 22248 proposed action and P alternatives emphasize use of a landscape approach to vegetation management  
 22249 expected to result, in the long term, in a Forest more resilient to uncharacteristic wildfire, and disease and  
 22250 insect outbreaks. In general, the vegetation management would be spread out more on the landscape scale  
 22251 with variable density thinning practices. There is likely to be improvement in ecological resilience. Risks  
 22252 of uncharacteristic wildfire to scenic resources would decrease. There should be fewer occurrences of  
 22253 uncharacteristic insect and disease outbreaks. The risks to scenic stability and landscape character would  
 22254 decrease. In the long term, scenic sustainability and resiliency would be improved by managing for the  
 22255 vegetative historical range of variability spread over the landscape.

22256 Alternatives R, B, and O emphasize old forest management in fixed reserves and emphasize timber  
 22257 production outside those areas. In general, vegetation management would be contained to a smaller  
 22258 landscape area with boundaries with a heavier shelterwood type of prescription. This approach is less  
 22259 likely to improve ecological resilience in the face of predicted climate change scenarios. Risks of  
 22260 uncharacteristic wildfire, and insect and disease outbreaks would likely continue. These alternatives, R, B,  
 22261 and O would increase risks to scenic stability and landscape character. In the long term, scenic  
 22262 sustainability and resiliency would be reduced by focusing vegetation management in specific areas and  
 22263 not on a dynamic landscape scale.

22264 **Table 204. Effects on scenic resources from wildlife**

	<b>Proposed Action</b>	<b>Alt. R</b>	<b>Alt. P</b>	<b>Alt. B</b>	<b>Alt. O</b>
Proposed vegetation management for wildlife- percent of total forest acres Effect to landscape character and scenic stability	9% Scenic sustainability and resiliency improved by managing for the vegetation HRV spread over the dynamic landscape.	19% Scenic sustainability and resiliency reduced by focusing vegetation management in specific areas (reserves) and not on a dynamic landscape scale.	5% Scenic sustainability and resiliency improved by managing for the vegetation HRV spread over the dynamic landscape.	20% Scenic sustainability and resiliency reduced by focusing vegetation management in specific areas (reserves) and not on a dynamic landscape scale.	1% Scenic sustainability and resiliency reduced by focusing vegetation management in specific areas (reserves) and not on a dynamic landscape scale.

22265 **Riparian and Aquatic Resource Management**

22266 Differences in management for aquatic resources between alternatives are not expected to produce  
22267 noticeably different effects to scenic resources, however scenic integrity would improve in the long term  
22268 as riparian and aquatic habitats become more natural appearing. Generally, riparian and aquatic  
22269 management objectives are compatible with landscape character goals and scenic integrity objectives. The  
22270 sense of place may be disruptive in places where recreation occurs in riparian/aquatic areas, especially  
22271 near lakes or streams if use is displaced.

22272 **Table 205. Effects on scenic resources from riparian and aquatic resource management**

	<b>Proposed Action</b>	<b>Alt. R</b>	<b>Alt. P</b>	<b>Alt. B</b>	<b>Alt. O</b>
Proposed riparian and aquatic management for vegetation - percent of total forest acres Effect to landscape character and scenic stability	<b>Acres of RHCA/RMA</b> 179,236 RHCA acres 16% Colville National Forest (CNF) ownership <b>Key and priority watersheds</b> 371,943 acres in key watersheds; 34% CNF ownership Measureable objectives for key watersheds Scenic integrity and landscape character would improve in the long term as riparian and aquatic habitats become more natural appearing	<b>Acres of RHCA/RMA</b> Same the proposed action and alternatives P and O <b>Key and priority watersheds</b> 451,525 acres in key watersheds; 41% CNF ownership Measureable objectives for key watersheds Scenic integrity and landscape character would improve in the long term as riparian and aquatic habitats become more natural appearing	<b>Acres of RHCA/RMA</b> Same as the proposed action and alternatives R and O <b>Key and priority watersheds</b> Same as alternatives R and B Scenic integrity and landscape character would improve in the long term as riparian and aquatic habitats become more natural appearing	<b>Acres of RHCA/RMA</b> Same as the proposed action <b>Key and priority watersheds</b> Same as the no-action alternative Scenic integrity and landscape character would improve in the long term as riparian and aquatic habitats become more natural appearing	<b>Acres of RHCA/RMA</b> Same as the proposed action and alternatives P and R <b>Key and priority watersheds</b> Same as alternatives R and P Scenic integrity and landscape character would improve in the long term as riparian and aquatic habitats become more natural appearing

22273 **Monitoring Recommendations**

22274 Monitoring and evaluation efforts provide information to:

- 22275 • detect magnitude and duration of changes in conditions including scenic integrity and landscape  
22276 character.
- 22277 • formulate and test hypotheses as to cause of the changes.
- 22278 • help better understand these causes and predict impacts.

22279 *Monitoring Types*

22280 There are three types of monitoring: implementation, effectiveness, and validation.

- 22281 • Implementation monitoring determines whether the standards and guidelines were followed.  
22282 Some agencies call it “compliance” monitoring or said another way “Did we do what we said we  
22283 would do?”
- 22284 • Effectiveness monitoring determines if the application of the management plan achieved or is  
22285 headed in the right direction to achieve the desired future condition (DFC), in other words did the  
22286 management practice or activity do what was intended. Did the standards and guides function as  
22287 intended or were they not effective?
- 22288 • Validation monitoring determines if new information exists which alters the validity of the  
22289 assumptions upon which the plan was based. Such considerations might include changes in  
22290 resource conditions, changes in constituent values and expectations or changes in legal  
22291 requirements.

22292 *Monitoring Landscape Character*

22293 The objective of Landscape character implementation and effectiveness monitoring is to determine if the  
22294 landscape character goal is being met or is moving toward the desired character over time. For example,  
22295 the goal may be to maintain open, park-like stands of large ponderosa pine with yellow-plated bark with  
22296 20 percent in seeding/saplings, 40 percent in a black bark stage, and 20 percent in small saw timber.

22297 Objective: To determine if the landscape character is moving in the direction of the landscape  
22298 character goal.

22299 Method: Identify through field review the percentage of vegetation (or other elements in the  
22300 landscape character) that is moving toward the landscape character goal.

22301 Unit of Measure: Percent of acres.

22302 Landscape character validation is addressed through a continual constituent analysis process determining  
22303 such things as the landscape character preferred by people.

22304 *Monitoring Scenic Integrity*

22305 Implementation monitoring is usually done through spot checking the scenic integrity level of activities  
22306 one year after completion to see if they are in compliance with the Forest Plan.

22307 Objective: To determine if the scenic integrity levels for projects adopted in the Forest Plan by  
22308 Management Area are being achieved.

22309 Method: Identify through field review a stratified sample of projects in high, moderate and low  
22310 integrity levels. Sampling intensity should increase with the level of scenic integrity objective.



22311 Unit of Measure: Identify total projects within each viewshed or geographic area, including how  
22312 many and what percent were monitored. Of those monitored, how many and what percent met the  
22313 scenic integrity standard for the area.

22314 Effectiveness can be checked by summarizing the existing scenic integrity levels for each viewshed or  
22315 geographic area.

22316 Objective: Are the cumulative effects of all resource activities within a viewshed meeting the  
22317 integrity level standards.

22318 Method: Determine the percentages of each integrity level being met within each viewshed.  
22319 Determine if the percentages are consistent with the Forest Plan.

22320 Unit of Measure: Total acres in each viewshed that are consistent with Forest Plan standards.

22321 Validation is addressed through a continual constituent analysis process, determining such things as the  
22322 lowest level of scenic quality acceptable to people.

## 22323 **Cumulative Effects (Common to all Alternatives)**

### 22324 **Past, Present, and Foreseeable Activities Relevant to Cumulative Effects Analysis**

22325 The affected environment for cumulative effects includes the Confederated Tribes of the Colville  
22326 Reservation, lands administered by the Idaho Panhandle National Forest and other Federal agencies; and  
22327 lands of other ownerships both within and adjacent to the Colville National Forest boundaries. Smoke  
22328 from wildland and prescribed fires can adversely affect scenic resources in the short term. The National  
22329 Park Service, State of Washington, and Indian tribes manage large tracts of lands in surrounding areas.  
22330 Smoke from prescribed burning operations on these lands could individually, or in combination with other  
22331 fires, affect scenic resources on the forest and in surrounding communities. Coordination and approvals of  
22332 prescribed fires through Washington State would help prevent the cumulative impacts of these burns from  
22333 creating unacceptable impacts to scenic resources. Under all alternatives, wildfires would continue to  
22334 periodically cause temporary deterioration of scenic resources.

22335 For all alternatives, cumulative impacts on scenic resources from forest management on private lands,  
22336 where scenic integrity is not an objective, would be to have a heavily altered landscape on private lands.  
22337 Where the view is comprised of adjacent Federal lands, which manage for scenic resources, the  
22338 cumulative effect is likely to be a natural-appearing landscape with high scenic integrity.

### 22339 **Special Uses**

22340 This Lands Special Use analysis focused on the issues likely to affect land special uses including access,  
22341 recommended wilderness, and riparian and aquatic resource management. Recreation Special Uses are  
22342 addressed in the Recreation section of this document.

22343 The Lands program area includes several different activities: special uses and land ownership/realty  
22344 actions. The affected environment description is divided into two broad areas. Special use authorizations  
22345 include permits, term permits, leases or easements which allow occupancy, use, rights or privileges of  
22346 NFS lands. Land ownership includes boundary management, land exchanges, purchases, and other  
22347 activities that are primarily real estate type activities.

## **Affected Environment**

The Colville National Forest lies within the northeast corner of Washington State. The Forest encompasses 1.1 million acres and occupies nearly one-third of the total area of Ferry, Pend Oreille, and Stevens Counties. To the north, the Forest is bordered by British Columbia; to the west by the Okanogan National Forest; to the east by the Idaho Panhandle National Forest; and to the south by a portion of the Colville Confederated Tribes Indian Reservation, state and private lands.

Many lands within the boundary of what would become the Colville National Forest were severed from the public domain becoming private through a variety of land disposal authorities including homesteading, mineral patents, statehood and Railroad land grants. The majority of the valley floors were patented, and to a large extent, the remaining forested lands in the higher elevations became National Forest Reserves, and later National Forest System (NFS) lands. Railroad grants in Pend Oreille County in 1908 left a checkerboard pattern of private, state and National Forest lands which continues to the present. Many former railroad grant lands are now owned and managed by a number of private forest resource companies.

Today, the forest, streams, lakes, mountains, and valleys of the Colville National Forest are literally the backyard of many residents in Ferry, Stevens and Pend Oreille County. According to the State of Washington's Office of Financial Management (OFM) Forecasting Division, between the years 2004 and 2014 the populations of Ferry, Stevens and Pend Oreille counties were expected to increase 4.93 percent, 7.86 percent and 11.1 percent respectively. Under Washington State RCW 43.62.035, which codifies the Growth Management Act (GMA), the OFM shall determine the percentage increase in population for each county over the preceding ten-year period as of each April 1st for growth management planning. Projections are statements about the future based on a particular set of assumptions. The GMA projections present high, medium, and low growth expectations for each county in the state. The medium series is considered the most likely expectation because it is based on assumptions that have been validated with past and current information. By the year 2040, using medium growth expectations, the populations of Ferry, Stevens and Pend Oreille counties are expected to increase 2 percent, 17 percent and 9 percent respectively. (State of Washington, Office of Financial Management, Forecasting Division 2012).

These population trends present opportunities and challenges for both the Forest and its neighbors. Individuals; Federal, state and local agencies; private industry; and other entities benefit from the goods and services the National Forest provides. Increases in county populations are expected to inflate the demand for access, goods and services. At the same time, the Forest must actively manage access, vegetation, recreation, property boundaries, and other issues to protect the interests of the public as a whole. Increased housing density in areas adjoining NFS lands adds to the potential for encroachment, trespass, and unauthorized use and occupation of NFS lands. Balancing the need for goods and services while protecting the interests of the public would be a challenge into the future for the Lands Special Use program because of a downward trend in Forest Service budget allocations and personnel.

## **Special Uses**

Occupancy and use of NFS lands for public and private purposes through the issuance of special use authorizations and easements, continues to be allowed where the use is consistent with natural resource management goals. Authorized occupancy encumbers NFS lands which in turn affects management decisions and actions. Special use authorizations are used to authorize occupancy and use of NFS lands by Federal, State, and local agencies; private industry; and individuals. Many different public laws regulate activities under special use authorizations.

Special uses are those that cannot be reasonably accommodated off-Forest, or, in some cases are Forest dependent, and include both Land and Recreation uses. This section addresses Land-type special uses

22393 which include, but are not limited to, access to private property, communication sites, utility transmission  
22394 right-of-ways, research studies, community and water uses. Recreation special uses are addressed in the  
22395 recreation section. Some special uses are temporary in length, however; some occupancy, especially  
22396 utility transmission right-of-ways and communication sites are long-term commitments of NFS lands and  
22397 typically have authorization terms of 20 or more years.

22398 As of November 2014, there are 303 Land special use authorizations issued for uses on the Colville  
22399 National Forest. The Forest anticipates the number of Land special uses would increase during the life of  
22400 the revised Colville National Forest Land Management Plan (Plan). As the communities around the Forest  
22401 expand, State agencies, counties, cities and towns, public utilities, and private citizens request new  
22402 authorizations or amendments to existing authorizations.

### 22403 Road Authorizations

22404 Road authorizations comprise 64 percent of the Land special uses issued on the Forest. Permits and  
22405 easements granted by the Forest Service provide access across the Forest to non-NFS land where  
22406 appropriate. These authorizations ensure the protection of NFS lands and resources. Authorization holders  
22407 contribute to road maintenance commensurate with use.

22408 Over 130 Forest Road and Trail Act (FRTA) Easements are granted to forest product companies, county  
22409 and state public road departments, and to state resource management agencies. The majority of FRTA  
22410 easements have been granted in Cost Share areas, where forest product companies and/or the state have  
22411 granted reciprocal easements to the United States over their lands to facilitate the construction and  
22412 maintenance of a mutually beneficial road system. The remaining FRTA easements have been granted to  
22413 Ferry, Stevens and Pend Oreille counties and are maintained as part of their county road system.

22414 Over 60 Federal Land Management Policy Act (FLPMA) Easements and Permits have been granted or  
22415 issued to private property owners and/or associations for access to their property. These roads are  
22416 generally not part of the forest road transportation system, and authorization holders are responsible for  
22417 maintenance of these roads. The number of applications submitted by landowners requesting access to  
22418 private property has increased appreciatively in the past several years, and that trend is expected to  
22419 continue.

22420 Requests for private access roads across NFS lands are increasing as residential development occurs on  
22421 adjacent private lands, and as people retire to live on property that was formerly used on a seasonal basis.  
22422 As of the year 2000, 20 to 30 percent of housing in Pend Oreille County was considered seasonal and/or  
22423 recreational housing, with a high likelihood of many housing units transitioning to retirement properties  
22424 (State of Washington, Office of Financial Management; Decennial Census 2010).

### 22425 Communication Sites

22426 The Forest has nine designated communication sites (Sites) where Federal, state and local agencies have  
22427 located their internal communication equipment, and commercial telecommunication companies are  
22428 authorized to transmit and receive communications. Each of these Sites has an approved Communication  
22429 Site Plan that defines the maximum power permissible at the site; protects NFS resources including soil,  
22430 vegetation and scenery; and guides the operation, maintenance and development of the Site. No additional  
22431 sites are proposed for development at this time, and new proposed sites would be analyzed on a case-by-  
22432 case basis.

22433 These Sites are located on the tops of mountains, have a limited capacity for expansion, and where snow  
22434 accumulation limits access during the winter. Occupancy is authorized under a Communication Site Lease  
22435 or Communication Site Permit for Federal agencies. Three Leases are issued to facility owners who rent

22436 space to other users including state and county governments and wireless service providers. Some single  
 22437 use Sites are authorized to wireless service providers, state agencies, and the Department of Homeland  
 22438 Security, U.S. Customs and Border Patrol. All Sites on the Forest are designated for low power uses.  
 22439 Infrastructure associated with these sites includes roads, powerlines, propane tanks, and telephone service.

22440 For the past several years wireless service providers (Verizon, AT&T Mobility/Cingular Wireless) have  
 22441 expanded their data delivery capabilities (4G/LTE) which in turn have required infrastructure replacement  
 22442 and/or the addition of back-up generators at several Sites. Tower standards have recently changed, and  
 22443 existing tower load capacity is challenged with the addition of new antennas and microwave dishes.  
 22444 Communication towers installed at several Sites are reaching the ends of their useable lifespan and need  
 22445 replacement. Requests for Site improvements and replacements are expected to continue into the future,  
 22446 and challenge the Forest's ability to respond with limited available budget and personnel.

22447 **Table 206. List of designated communication sites**

Communication Site Name/Lease Holders	County	Location
Bisbee Mountain <ul style="list-style-type: none"> <li>Verizon</li> <li>Washington State Dept. of Transportation</li> </ul>	Ferry	Latitude 48 38' 02.54" North Longitude 118 09' 25.75" West
Bodie Mountain <ul style="list-style-type: none"> <li>Washington State Department of Natural Resources</li> <li>Forest Service</li> </ul>	Ferry	Latitude 48 49' 38.58" North Longitude 118 49' 58.024" West
Chewelah Peak <ul style="list-style-type: none"> <li>SBA Structures</li> </ul>	Stevens	Latitude 48 17' 01.21" North Longitude 117 34' 22.79" West
Deer Mountain <ul style="list-style-type: none"> <li>Pend Oreille PUD #1</li> </ul>	Pend Oreille	Latitude 48 47' 57.39" North Longitude 117 26' 37.45" West
Flagstaff Mountain <ul style="list-style-type: none"> <li>SBA Structures</li> <li>Verizon</li> <li>Department of Homeland Security, U.S. Customs and Border Patrol</li> <li>Forest Service</li> </ul>	Stevens	Latitude 48 54' 31.38" North Longitude 117 52' 09.41" West
Flume Creek <ul style="list-style-type: none"> <li>Pend Oreille County Emergency Management</li> <li>Department of Energy, Bonneville Power Administration</li> </ul>	Pend Oreille	Latitude 48 55' 08.53" North Longitude 117 24' 57.71" West
Owl Mountain* <ul style="list-style-type: none"> <li>Orient-Laurier TV Club</li> </ul>	Ferry	Latitude 48 58' 32.377" North Longitude 118 14' 6.851" West
Ruby Mountain <ul style="list-style-type: none"> <li>Pend Oreille Telephone Company</li> </ul>	Pend Oreille	Latitude 48 30' 08" North Longitude 117 19' 32" West
Sand Ridge <ul style="list-style-type: none"> <li>Department of Homeland Security, U.S. Customs and Border Patrol</li> </ul>	Pend Oreille	Latitude 48 49' 05.79" North Longitude 117 19' 05.42" West

22448 \*The Orient Laurier TV Club is removing their facilities the summer of 2015

### *Forest Service Administrative Repeater Sites*

There are 13 radio repeater sites used for Forest Service administrative communications, including two at designated communication sites listed above. Most of the Forest Service communication facilities are located on NFS lands; one on tribal lands, and two on state owned lands. The Forest Service leases space at those sites for our occupancy. The Forest's administrative communication sites currently do not have Communication Site Plans. Administrative Communication Site Plans should be developed that describe the extent of each Sites development potential, with the intent of protecting the integrity of critical Forest Service communications and equipment.

**Table 207. List of Forest Service repeater locations**

Forest Service Repeater Site Name	County	Land Ownership
Bodie Mountain	Ferry	Forest Service
Calispell Peak	Stevens	Forest Service
Flagstaff Mountain	Stevens	Forest Service
Grizzley	Ferry	Colville Confederated Tribal Lands
Jackknife	Ferry	Forest Service
Monumental	Stevens	State of Washington
Mt. Leona	Ferry	Forest Service
North Baldy	Pend Oreille	Forest Service
Red Top*	Stevens	*Forest Service (To be constructed in 2015)
Stensgar**	Pend Oreille	**State of Washington (To be removed in 2015)
Sullivan	Pend Oreille	Forest Service
Salmo	Pend Oreille	Forest Service
Togo Mountain	Ferry	Forest Service
Quartz Mountain	Ferry	Forest Service

### **Water Uses**

There are 34 special use authorizations issued on the Forest for water-related uses including irrigation ditches and pipelines, domestic water developments, and municipal water systems that include dams and weirs. Holders of those authorizations have demonstrated they hold a state water right for the diversion of water for a beneficial use. Forest Service authorizations do not confer a water right, but allow the occupancy for the storage and transmission of water, and for water system infrastructure. The U.S. Geologic Survey and the Pend Oreille Public Utility District #1 hold permits for stream gaging stations to monitor temperature and flow rates of streams and rivers.

### **Utilities**

Utilities include power lines, gas lines, telephone and fiber optic lines. The Energy Policy Act of 2005 directed the Secretaries of Agriculture, Commerce, Defense, Energy, and the Interior to designate energy transport corridors for oil, gas, and hydrogen pipelines and electricity transmission and distribution facilities on Federal lands in portions of Arizona, California, Colorado, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, and Wyoming. There are no Energy Policy Act designated energy corridors on the Colville National Forest.

There are 19 special use authorizations issued on the Forest for low and high energy power lines. Public Utility Districts in Ferry, Stevens and Pend Oreille County deliver low voltage (12Kv and less) to their customers in their respective counties. These power lines are frequently located along road corridors on

22476 NFS lands. The Department of Energy Bonneville Power Administration (BPA ) operates and maintains 5  
22477 high voltage power lines in large right-of-ways that bisect the Forest, delivering power generated from the  
22478 Pend Oreille Public Utility District #1 (PUD) Box Canyon Dam, and Seattle City Light's (SCL) Boundary  
22479 Dam to the western power grid. In addition to the power lines, access roads and trails are also authorized  
22480 to BPA to facilitate operations and maintenance of their improvements. Power line pole replacements,  
22481 road maintenance, hazard tree removal and other vegetation treatment activities are performed regularly  
22482 by these utilities. Additional utilities and/or upgrades to existing utilities should be concentrated within  
22483 existing permit corridors before new permit areas are authorized.

22484 There is one gas line authorized under permit on the Forest. The gas line provides service to the Republic  
22485 Ranger District compound in the town of Republic, Washington in Ferry County.

22486 Telephone and fiber optic lines provide a backbone of communication for businesses and the citizens of  
22487 Ferry, Stevens and Pend Oreille County. The majority of telephone lines are overhead lines, with service  
22488 connections buried when conditions allow. Fiber optic lines are usually buried underground to protect the  
22489 lines and conduit. All new telephone service connections and fiber optic lines should be buried whenever  
22490 and wherever possible.

22491 There are no solar or wind generation farms authorized under permit on the Forest, and low potential for  
22492 those renewable energy sources to be developed.

#### 22493 **Military Training Survival School**

22494 The U.S. Air Force AETC, 336th Combat Crew Training Group, located at Fairchild Air Force Base,  
22495 Spokane, Washington, operates a SERE (Survival, Evasion, Resistance, and Escape) School on the  
22496 Colville National Forest. The Survival School has been permitted on the Colville National Forest since  
22497 1966. This school is operated under a long term Special Use Permit that expires December 31, 2030. The  
22498 school provides training to all Air Force crewmembers, future survival instructors, combat rescue officers,  
22499 and specialized training to all branches of the military. The Survival School consists of both classroom  
22500 and outdoor training. Most of the outdoor training occurs on the Colville National Forest. The training  
22501 requires small groups of students live on the Forest under primitive conditions and practice techniques for  
22502 personal sustenance, overland travel, shelter and recovery. The Survival School is supported by two  
22503 command posts located on the Newport Ranger District.

#### 22504 **Other Authorized Uses**

22505 The remainder of the Forest Land special use authorizations include agricultural uses, public service  
22506 infrastructure (stockpile sites, warehouses), an airstrip operated by the Washington State Department of  
22507 Transportation, research and site surveys, and education uses. These uses are expected to continue on the  
22508 Forest. Persons who have personal property that is in trespass, are issued short-term permits to remove  
22509 their property from NFS lands.

#### 22510 *Hydropower*

22511 The abundant water resources in northeastern Washington support hydroelectric projects on the Forest,  
22512 which are authorized under Federal Energy Regulatory Commission (FERC) Licenses. The FERC license  
22513 is the authorizing instrument that contains the conditions under which the licensee operates and maintains  
22514 the hydroelectric project and lands within the license boundary. The Forest Service is a cooperating  
22515 agency to the FERC regarding the management of NFS lands and resources within the license boundary.

22516 Seattle City Light operates Boundary Dam (FERC Project #2144) on the Pend Oreille River in northern  
22517 Pend Oreille County. The FERC issued SCL a new 42-year License on March 20, 2013. Conditions were  
22518 incorporated into the license that requires Seattle City Light to perform mitigation measures on NFS lands

22519 outside of the licensed area. Some of those mitigation measures would require the issue of temporary or  
22520 longer term permits for the occupancy of NFS lands. On March 20, 2013, the FERC issued an Order  
22521 “Accepting the Surrender of License and Authorizing Disposition of Project Facilities” to the PUD for the  
22522 Sullivan Creek Project (FERC Project #2225) located on Sullivan Creek, a tributary to the Pend Oreille  
22523 River in northern Pend Oreille County. The Surrender of the License is expected to be effective by the  
22524 year 2021, following completion of all surrender conditions including the removal of Mill Pond dam and  
22525 the restoration of the former impoundment. The Sullivan Lake dam and impoundment would be retained  
22526 by the PUD and authorized under special use permit. The PUD also operates the Box Canyon  
22527 Hydroelectric Project (FERC Project # 2042) on the Pend Oreille River.

22528 The PUD also operates the Box Canyon Hydroelectric Project (FERC Project # 2042) on the Pend Oreille  
22529 River. One-hundred-ninety acres of NFS lands are directly affected by the Project operation. The PUD,  
22530 Forest, Kalispel Tribe of Indians, state agencies and others are working to implement 4e and 10a License  
22531 Conditions on NFS lands, including, but not limited to, recreation administration and maintenance, and  
22532 off-site mitigations to improve fish habitat.

### 22533 **Boundary Management**

22534 The Forest protects its property boundaries through a boundary management program. The program also  
22535 provides support for all resource areas including vegetation management; trespass and encroachment  
22536 identification/resolution; as well as land and easement grant, purchase, or exchange. Work is performed  
22537 by State-licensed Forest Service land surveyors or State-licensed land surveyors contracted by the Forest  
22538 Service. Trespasses or encroachments onto NFS lands are identified and resolved as soon as practicable  
22539 by coordination between the District Ranger and landowner.

22540 Each year a portion of the Forest’s 1,500 miles of boundary line are surveyed or maintained to the Forest  
22541 Service’s standards. Currently, the boundary management program surveys or maintains 15 to 30 miles of  
22542 the total 1,500 miles of Forest boundary line annually. The known lifespan of a marked boundary is  
22543 30 years, with decay of this valuable infrastructure beginning at 15 years.

22544 The occupancy and use of land adjacent to the Forest has been on the rise, and is expected to further  
22545 increase in the years ahead. Instances of trespass and encroachment are also expected to increase. Because  
22546 of this, boundary line maintenance would become more and more critical to the successful protection of  
22547 NFS lands. The expected increase in road authorizations over time would require an increase in boundary  
22548 management support for road/easement mapping purposes as well.

### 22549 **Land Ownership: Exchange, Acquisitions, and Access**

22550 The Forest acquires and disposes of lands through land exchange, purchase, donation, transfers or sale  
22551 consistent with national policy, regional priorities, and budget. The acquisition of private timberlands in  
22552 the Sheep Creek drainage in northern Stevens County is ongoing and should be completed by the end of  
22553 2015.

22554 The Forest acquires access rights-of-way across non-NFS lands as needed to meet resource management  
22555 objectives and public access needs. Rights-of-way are acquired from landowners using easements, term  
22556 easements, limited easements, or permits for roads crossing private lands. Temporary or limited rights-of-  
22557 way may be acquired when landowners are unwilling or unable to grant full public access, or when  
22558 permanent access is not in the public interest or necessary to address long-term resource management  
22559 objectives.

## Need for Change

Comments submitted on the proposed action were reviewed to determine how they would be considered in the analysis. Old forest management, motorized recreation trails, road access, recommended wilderness, wildlife habitat, and riparian and aquatic resource management were identified as significant issues used to formulate alternatives. No lands issues drove the creation of an alternative.

## Old Forest Management and Timber Production

In the revision of the Forest Plan, three broad-scale concerns drove the need to consider how we address old forest management, especially the current reserve system approach at the landscape scale. These are:

- The recent history of uncharacteristic levels of disturbances resulting from fire and insect and disease activity that would likely continue into the future.
- The interaction between disturbances and climate change that elevates the importance of restoring landscape resiliency.
- Uncertainty about the recovery and viability of old forest-dependent species given the increased risk of uncharacteristically severe disturbances that is likely to be exacerbated by climate change impacts.

## Motorized Recreation Trails

The current land management plans provide direction for summer and winter motorized uses, including identifying areas where such use may not be authorized or is limited, mainly for protection of aquatic, plant, and wildlife habitats.

The goal for recreation settings and experiences would include providing a spectrum of high quality, nature-based outdoor recreational settings where visitors access the Forest, including access to the biological, geological, scenic, cultural, and experiential resources of the Forest. Where the visitor's outdoor recreational experience involves few conflicts with other users, access is available for a broad range of dispersed recreation activities such as dispersed camping, rock climbing, boating, mushroom and berry picking, hunting, and fishing and these experiences are offered in an environmentally sound manner, are within budget limits, and contribute to the local economy.

## Access

Three broad concerns drove the need to address road density:

- The Forest can no longer afford to properly maintain the road system at current operational maintenance levels,
- The current road system is not aligned with current and future resource management objectives, and
- The existing road management direction is confusing and difficult to follow because it is scattered throughout current Forest Plan (Colville National Forest Land and Resource Management Plan), Forest Plan amendments (Eastside Screens, Interim Inland Native Fish Strategy for the Intermountain, Northern, and Pacific Northwest Regions [INFISH, USDA Forest Service 1994c and 1995]), national-level decisions (the Roadless Rule), and interim policy (e.g., Lynx Agreement, the Interior Columbia Basin Strategy).



## **Recommended Wilderness Areas**

By law, all roadless National Forest System lands must be evaluated for possible wilderness recommendation during the plan revision process. The result of that evaluation shows whether a need exists for additional wilderness and what trade-offs may exist if the area is eventually designated part of the National Wilderness Preservation System.

Currently, the Salmo-Priest Wilderness covers about 3 percent of the Colville National Forest and evaluation showed a need for additional wilderness opportunities on the Forest. A review of possible areas showed some are available to fill this need.

## **Riparian and Aquatic Resource Management**

The current Forest Plan includes riparian management direction from the Inland Native Fish Strategy (INFISH, USDA Forest Service 1994c and 1995). This approach appears to have either maintained or improved riparian and aquatic habitat conditions at the watershed and larger scales.

Objectives for riparian management areas would give emphasis to maintaining or restoring the riparian and aquatic structure and function of intermittent and perennial streams, confer benefits to riparian-dependent plant and animal species, enhance habitat conservation for organisms that are dependent on the transition zone between upslope and riparian areas, contribute to improved water quality and flows, and contribute to a greater connectivity of the watershed for both riparian and upland species.

Desired conditions for riparian management areas within any given watershed are to have compositions of native flora and fauna and a distribution of physical, chemical, and biological conditions commensurate with natural processes.

## **Environmental Consequences**

### **Methodology**

This section describes the methodology and analysis processes used to determine the environmental consequences on lands and special uses from implementing the alternatives. Environmental consequences are not site-specific at the broad forest planning level and are described with qualitative descriptions supported by past trends, records, special use authorizations, and changes in land ownership.

### **Assumptions**

- Regardless of the alternative, land special uses would continue to occupy certain portions of the Forest where those uses are compatible with management area direction.
- New uses would be proposed, and existing holders of instruments would request changes or alterations to their existing permitted uses.
- Existing permit holders may be required to implement best management practices and/or resource protection measures to comply with new Forest standards and guides.
- Requests for access to private lands within the Forest boundary would continue as population increases, land parcels are subdivided, and conversions of recreation property to full-time residential property continue.
- Land special uses have to comply with Federal and state laws and regulations. These include but are not limited to laws such as Clean Water Act and Endangered Species Act.
- Special use permits would be issued in accordance with Forest Service Manual 2700, Forest Service Handbook 2709.11, and regulations found in 36 CFR 251 Subpart A.

22638 ***Methods of Analysis***

22639 Methodology and analysis process included query of the Natural Resource Manager (NRM) Special Uses  
22640 Database (SUDS), Land Status Atlas, Forest Service records and case files, and census data to review  
22641 population trends.

22642 **Spatial and Temporal Context for Effects Analysis**

22643 This analysis is completed for all lands within the administrative boundaries of the Colville National  
22644 Forest. It is assumed that the effective life of the plan would be 15 years and this analysis discusses the  
22645 effects to lands and special uses over this time period.

22646 **Incomplete and Unavailable Information**

22647 Special use proposals and applications are submitted by Federal, state and local agencies, commercial  
22648 interests, and private individuals throughout the year. On average, approximately 35 new proposals and  
22649 applications are submitted annually. This trend is expected to continue.

22650 **Summary of Effects**

22651 In all alternatives, the issuance and administration of Land special use authorizations would continue to  
22652 the level allowed by staffing; and directed by law, regulations, policy and direction. Special use proposals  
22653 shall be evaluated in part on the suitability of the proposed use within the land allocation, and the first and  
22654 second level screening process defined in 36 CFR 251.54 . The Forest Service would continue to  
22655 cooperate with the FERC and Licensees on implementation of License conditions and settlement  
22656 agreements. Special Use authorizations would be issued on NFS lands outside the License boundaries to  
22657 support License condition implementation. Boundary line survey and maintenance would continue to  
22658 support Forest program areas and defend Forest boundaries, as allowed by funding and staffing. Land  
22659 realty actions would continue to support national and regional policy and objectives. The Forest would  
22660 continue to aggressively pursue the acquisition of permanent and temporary access across non-NFS lands  
22661 to meet resource management objectives and public access needs.

22662 **Cumulative Effects**

22663 **Past, Present, and Foreseeable Activities Relevant to Cumulative Effects Analysis**

22664 The area for considering cumulative effects includes the lands within the Colville National Forest  
22665 administrative boundary. In consideration of all past, present, and foreseeable actions, no cumulative  
22666 effects to special uses are anticipated.

22667 **Social Resources**

22668 The Colville National Forest is in northeastern Washington, extending to Ferry, Pend Oreille, and Stevens  
22669 counties. Towns near the Forest include Republic, Marcus, Kettle Falls, Colville, Northport, Metaline,  
22670 Metaline Falls, Ione, Chewelah, Cusick, Springdale, and Newport.

22671 The following analysis considers existing socioeconomic conditions, trends, and resource uses in the  
22672 three-county area. In some cases, community-level data are available to document within-county  
22673 conditions and trends. However, data availability and reliability decrease as the units of analysis become  
22674 smaller. Therefore, most of the socioeconomic data are presented at the county-level. National and State-  
22675 level socioeconomic data are presented for context.

## Affected Environment

### Population Growth

In 2010, the population of the three-county planning area was approximately 64,000. As table 208 reveals, county populations within the planning area vary considerably, with nearly six people in Stevens County for every one person in Ferry County. Population variation between counties highlights the importance of presenting disaggregated county-level data alongside the planning area-wide assessment. Trends in Stevens County may mask changes in smaller counties in data aggregations.

**Table 208. Current population and growth trends**

Location	1990 Population	2000 Population	% Change, 1990-2000	2010 Population	% Change, 2000-2010
Ferry County	6,295	7,260	15.3%	7,551	4.0%
Pend Oreille County	8,915	11,732	31.6%	13,001	10.8%
Stevens County	30,948	40,066	29.5%	43,531	8.6%
3-County Aggregate	46,158	59,058	27.9%	64,083	8.5%
Washington State	4,866,692	5,894,121	21.1%	6,724,540	14.1%
United States	248,709,873	281,421,906	13.2%	308,745,538	9.7%

Source: U.S. Census Bureau, 1990, 2000, and 2010

As table 208 shows, the three-county region grew dramatically between 1990 and 2000—surpassing both the state and national growth rates. However, the past decade has seen much more muted growth rates. Overall, the three-county area grew at a slower pace between 2000 and 2010 than either the State or Nation.

The largest communities in the planning area (populations exceeding 1,000) are Colville (4,673), Chewelah (2,607), Newport (2,126), Kettle Falls (1,595), and Republic (1,073) (U.S. Census Bureau 2010).

Slower growth may indicate limited economic opportunities, aging populations, or a shift in location preferences. However, population growth rates do not tell a complete story. Neither high nor low growth rates can be used alone to demonstrate positive or negative changes in a county. As Grinspoon and Phillips (2007) explain, high population growth rates may lead to economic growth and diversity. However, they may also strain community capacity (e.g., physical and civic infrastructure) and lead to conflict between long-time residents and newcomers. The remaining analysis would seek to add context and clarity to trends and potential issues in these counties and the planning area as a whole.

### Population Density

Population density can serve as an indicator for a number of socioeconomic factors of interest—urbanization, availability of open space, socioeconomic diversity, and civic infrastructure (Grinspoon and Phillips 2007; Horne and Haynes 1999). More densely populated areas are generally more urban, diverse, and offer better access to infrastructure. In contrast, less densely populated areas provide more open space, which may offer amenity values to residents and visitors.

Table 209 gives population densities in the study area. All three counties are much less densely populated than either the state or nation. In general, Washington is a densely populated state—it is more densely populated than the nation as a whole. However, several counties in western Washington are primarily responsible for the state's high density. King and Kitsap counties in the Seattle metropolitan area and

22709 Clark County in the Portland, Oregon metropolitan area have more than 500 people per square mile (U.S.  
22710 Census Bureau 2010).

22711 **Table 209. Population density**

Location	People per Square Mile
Ferry County	3.4
Pend Oreille County	9.3
Stevens County	17.6
Washington State	94.3
United States	87.2

22712 Source: U.S. Census Bureau 2010

22713 Ferry and Pend Oreille counties have particularly low population densities, with fewer than 10 people per  
22714 square mile. These are among the least dense counties in the state. These counties are clustered in the far  
22715 northeastern area of Washington, which suggests that these counties may be particularly isolated.  
22716 Residents in isolated counties generally have limited access to services, fewer economic opportunities,  
22717 and face higher transportation costs.

22718 Although population density may suggest urban or rural status in a county, it cannot indicate the  
22719 concentration of urban and rural areas within a county. Wide disparities between urban and rural areas  
22720 remain in terms of economic conditions, access to infrastructure and services, opportunities for  
22721 socioeconomic mobility, and control over natural resources (Grinspoon and Phillips 2007). Disparities are  
22722 caused by natural differences, political decisions, and social factors

22723 The Economic Research Service classifies all counties on a rural-urban continuum using nine codes (1 is  
22724 the most urban; 9 is the most rural). Pend Oreille and Stevens counties are in the Spokane metropolitan  
22725 area, and are, therefore, classified as urban counties. However, Ferry County is classified as entirely rural  
22726 (ERS 2015). These data reaffirm the findings discussed under population density.

## 22727 Median Age

22728 Median age can reveal information relevant to land management decisions. Areas with a large proportion  
22729 of retirees may have different needs and preferences than communities populated primarily with working  
22730 age families. The following table provides the median age by county as well as the state and national  
22731 averages.

22732 **Table 210. Median age**

Location	Median Age
Ferry County	47.3
Pend Oreille County	47.8
Stevens County	45.0
Washington State	37.3
United States	37.2

22733 Source: U.S. Census Bureau 2010, Table DP-1

22734 Median age in the planning area is substantially older than the State and the Nation. People living in the  
22735 three counties are, on average, approximately 10 years older than the State and Nation. This suggests that

these counties have relatively high proportions of retirees and comparatively few young adults and families with children at home. (Note: this prediction is borne out in the labor versus non-labor income data presented below. All three counties have large shares of non-labor income.) Of the communities within 10 miles of the Colville National Forest, only Kettle Falls, Springdale, and Newport have median ages that approximate the state and national medians (U.S. Census Bureau 2010). The remaining communities have median ages that are substantially higher than the state and national medians. These data suggest that forest access for older individuals may be linked to community and household well-being.

### Educational Attainment

Educational attainment, the measure of people with at least a high school diploma or bachelor's degree, is an important indicator of an area's social and economic opportunities and its ability to adapt to change. The following table lists the percentage of the adult population with a high school diploma and a bachelor's degree.

**Table 211. Educational attainment, percentage of persons age 25 and over**

Location	High School Graduate or Higher (%)	Bachelor's Degree or Higher (%)
Ferry County	88.6	16.7
Pend Oreille County	87.7	17.9
Stevens County	90.2	19.2
Washington	89.6	31.0
United States	85.0	27.9

Source: U.S. Census Bureau 2010, Table DP-02

The percentage of adults with at least a high school diploma in the planning area is similar to the state and national averages. The population with at least a bachelor's degree in the planning area, however, is low compared to the State and Nation. The adult population with at least a bachelor's degree in the planning area is approximately ten percentage points lower than the national average. These data may indicate that the planning area counties provide few opportunities for highly educated workers. The presence of highly educated adults may be self-reinforcing: a highly educated population is a signal that an area provides economic and cultural opportunities, which attracts additional college educated adults to the area. This process leads to further economic development and job creation. In contrast, areas with low levels of educational attainment have lower levels of human capital, which reduces an area's ability to capitalize on economic change (Florida 2002).

### Income and Earnings

Income data are key indicators of the economic well-being of a county. High per capita income and mean earnings may signal greater job opportunities, highly skilled residents, economic resilience, and well-developed infrastructure. Per capita income measures both labor income (i.e., wage and salary payments) and non-labor income (i.e., dividends, rents, and transfer payments) divided by the total number of people in a county. Mean earnings data consider only wage and salary payments to the working population in a county.

**Table 212. Per capita income and mean earnings**

	Per Capita Income	Mean Earnings
Ferry County	\$19,320	\$48,305
Pend Oreille County	\$22,647	\$55,017
Stevens County	\$21,928	\$53,101
Washington	\$30,661	\$77,586
United States	\$28,051	\$74,373

Source: U.S. Census Bureau 2012b

Across all three planning area counties, both per capita income and mean earnings are considerably below the state and national figures. These data suggest that the planning area provides limited economic opportunities.

Table 213 displays the contribution of labor (i.e., wage and salary) and non-labor (i.e., rents, dividends, and transfer payments) sources of income to total personal income in the planning area counties. All three study area counties derive the majority of personal income from non-labor sources, which indicates that a large number of retirees reside in the area. In contrast, nearly two-thirds of personal income in both the State and Nation come from labor earnings. These data are consistent with the finding that planning area residents are, on average, older than residents of the State and Nation.

**Table 213. Contribution of labor and non-labor income to total personal income**

	Labor %	Non-labor %
Ferry County	41.0	59.0
Pend Oreille County	45.2	54.8
Stevens County	46.5	53.5
Washington	64.7	35.3
United States	64.6	35.4

Source: U.S. Bureau of Economic Analysis 2012

Non-labor income can provide economic stability in an area, as it is not directly tied to employment. However, reliance on non-labor income also has drawbacks: first, as the latest recession illustrated, asset markets can be high risk. Dramatic changes in the value of homes and investment portfolios may significantly decrease non-labor income. Second, some forms of non-labor income, particularly transfer payments (e.g., Social Security), are contingent on government policy. Changes in policy would affect this type of income. Third, the types of goods and services bought with non-labor income would affect the economic impact. For instance, a county that has a high rate of amenity retiree part-year residents is likely to experience growth in related industries, such as tourism and recreation. Jobs in these industries are often low wage and seasonal, which may increase employment, but decrease mean earnings.

## Economic Diversity

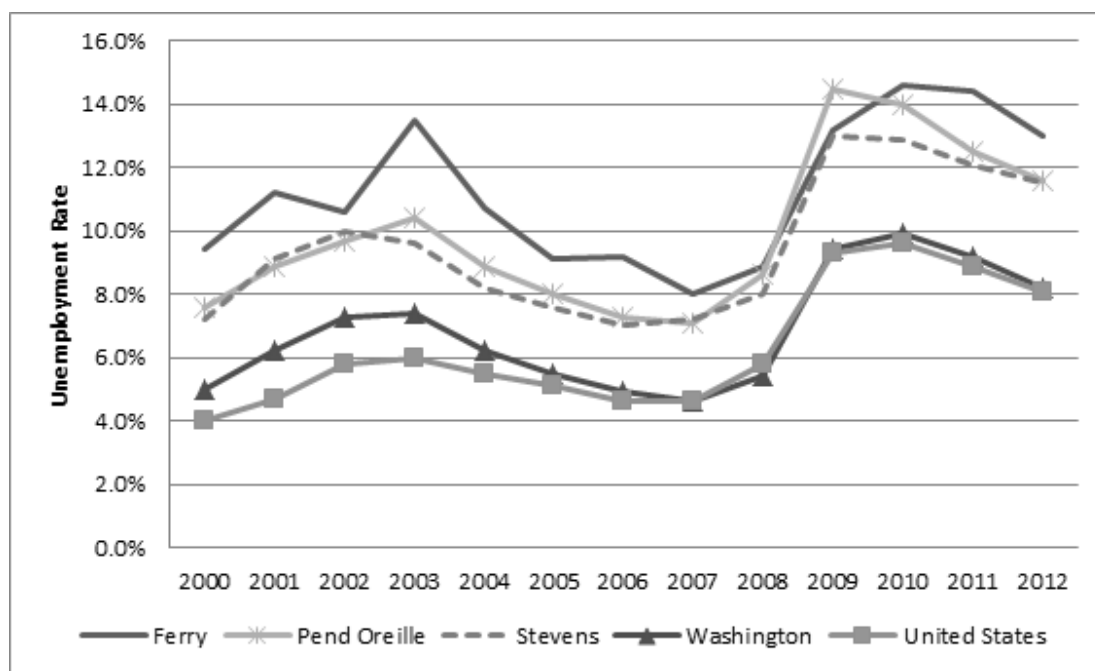
Economic diversity generally promotes stability and offers greater employment opportunities. Highly specialized economies (i.e., those that depend on very few industries for the bulk of employment and income) are more prone to cyclical fluctuations and offer more limited job opportunities. Determining the degree of specialization in an economy is important for decision-makers, particularly when the dominant industry can be significantly affected by changes in policy. For Forest Service decision-makers, this is likely to be the case where the forest products industry or the tourism and recreation industries, for instance, are reliant on the local national forest.

22799 Government is the dominant employer, accounting for more than one-quarter of planning area  
22800 employment. Nationally, approximately 14 percent of employment is with the government (all levels).  
22801 The planning area is also specialized in agriculture, forestry, fishing and hunting, which accounts for  
22802 9 percent of employment in the three-county area. For context, this sector is responsible for less than  
22803 2 percent of national employment (IMPLAN 2010).

22804 Economists, borrowing from ecologists, use a diversity index (variously called the Shannon Index,  
22805 Shannon-Weiner Index, and Shannon-Weaver Index) to assess the degree of economic specialization. The  
22806 index ranges from zero (most specialized) to one (most diverse). The planning area scores 0.67 on this  
22807 index. In contrast, Washington scores 0.74 and the U.S. scores 0.76 (IMPLAN 2010). A low economic  
22808 diversity rating may indicate lower economic resilience.

## 22809 Unemployment

22810 The unemployment rate provides insight into the correspondence between residents' skills and  
22811 employment opportunities. The "natural" rate of unemployment has been posited to be around 5 percent.  
22812 This is the so-called natural rate because this is a level that allows for movement between jobs and  
22813 industries, but does not signal broad economic distress. The national unemployment rate has stayed  
22814 substantially above this rate since 2009. Figure 11 shows the unemployment trends for the Nation, State,  
22815 and three-county planning area since 2000.



22816 Source: U.S. Bureau of Labor Statistics 2013  
22817

22818 **Figure 11. Unemployment rate**

22819

Since the middle of the decade, Washington's unemployment rate has converged with the national rate. In contrast, the unemployment rate in the three-county area has consistently exceeded the national and state unemployment rates since 2000. These data suggest that the planning area may be less able to adapt to economic changes.

## Environmental Justice

In 1994, President Clinton issued E.O. 12898 (Office of the President 1994). This order mandates that all Federal agencies analyze the potential for their actions to disproportionately affect minority and low-income populations. The Council on Environmental Quality (CEQ) issued supplemental guidance to assist agencies' compliance (CEQ 1997). The CEQ suggests the following criteria for identifying potential environmental justice populations:

"Minority population: Minority populations should be identified where either: (a) the minority population of the affected area exceeds 50 percent or (b) the minority population percentage of the affected area is meaningfully greater than the minority population percentage in the general population or other appropriate unit of geographic analysis..."

"Low-income population: Low-income populations in an affected area should be identified with the annual statistical poverty thresholds from the Bureau of the Census' Current Population Reports, Series P-60 on Income and Poverty. In identifying low-income populations, agencies may consider as a community either a group of individuals living in geographic proximity to one another, or a set of individuals (such as migrant workers or Native Americans), where either type of group experiences common conditions of environmental exposure or effect."

According to the Census data from 2010, Native American populations meet the environmental justice criterion as a minority population meaningfully greater than the general population. Therefore, decision makers in planning area should give particular consideration to the potential impacts of management actions on Native American populations.

More than 15 percent of Ferry County's population identifies as Native American or Alaska Native, indicating that effects on tribal uses and values should be thoroughly analyzed. Pend Oreille and Stevens counties also have large Native American/Alaska Native populations relative to Washington and the United States. Compared to the state and nation, the planning area has fewer individuals who identify as Hispanic/Latino, Black/African American, or Asian.

The following table shows the share of individuals living in poverty in 2010. All three counties have poverty rates that exceed the state and national rates. The relatively high poverty rates across the planning area highlight the importance of considering potential environmental justice impacts in the decision-making process.

**Table 214. Poverty rates**

Location	% People Living in Poverty
Ferry County	20.8
Pend Oreille County	18.3
Stevens County	15.1
Washington State	12.1
United States	13.8

Source: U.S. Census Bureau 2012a



All three counties have poverty rates that exceed the state and national rates. The relatively high poverty rates across the planning area highlight the importance of considering potential environmental justice impacts in the decision-making process. Ferry County has the highest poverty rate, with approximately one-fifth of residents living in poverty. Ferry County also has the highest percentage of minority residents in the planning area, suggesting overlap between race and poverty. Tribal land uses in Ferry County (e.g., subsistence gathering on the Forest) would be analyzed in the context of high poverty rates.

Table 215 displays the poverty rate by race and ethnicity for each of the three counties, Washington, and the United States. As the table reveals, the poverty rate often varies substantially across races and ethnicities. In all considered geographies, non-Hispanic white residents experience the lowest levels of poverty. Overall, the table indicates a strong correlation between minority status and poverty in the planning area.

Native American/Alaska Native individuals experience the highest rates of poverty in the planning area, with approximately one-quarter of these individuals living below the poverty line. Each instance of the poverty rate exceeding 25 percent is highlighted gray.

**Table 215. Poverty by race and ethnicity**

Location	White, Not Hispanic	Black, African American	Native American, Alaska Native	Asian	Native Hawaiian, Pacific Islander	Latino, Hispanic
Ferry County	17.2%	N/A	24.1%	N/A	N/A	N/A
Pend Oreille County	17.5%	N/A	29.0%	N/A	N/A	18.7%
Stevens County	14.7%	14.7%	25.5%	18.5%	N/A	26.5%
Washington State	8.2%	18.6%	21.1%	12.2%	13.3%	24.2%
United States	7.9%	23.4%	22.3%	12.3%	15.7%	22.1%

Source: U.S. Census Bureau 2000

Note: N/A indicates that this data was not available from the Census Bureau. To protect the identity of respondents, the Census Bureau does not report data where fewer than 100 individuals compose the sample.

A low prevalence of minority residents, poverty, or both, should not be construed as evidence that environmental justice issues would not arise as a result of forest planning decisions. All decisions would be scrutinized for any potential adverse impacts on vulnerable populations, wherever they reside in the planning area.

Three federally recognized tribes are engaged in the plan revision process at varied levels: the Colville Confederated Tribes, the Spokane Tribe, and the Kalispel Tribe.

### Values, Beliefs, and Attitudes

**Values** are “relatively general, yet enduring, conceptions of what is good or bad, right or wrong, desirable or undesirable.”

**Beliefs** are “judgments about what is true or false—judgments about what attributes are linked to a given object. Beliefs can also link actions to effects.”

**Attitudes** are “tendencies to react favorably or unfavorably to a situation, individual, object, or concept. They arise in part from a person’s values and beliefs regarding the attitude object” (Allen et al. 2009).

22887 The James Kent Associates report, “Community Field Reports in Support of the Upcoming Land Use  
22888 Planning for the Spokane District Office of the Bureau of Land Management,” (JKA 2010) outlines  
22889 values, beliefs, and attitudes expressed by eastern Washington residents toward public lands management.  
22890 Although this report focuses on BLM management, much of the information is also relevant for Forest  
22891 Service decision makers in northeastern Washington. The report divides area into “human resource units”.  
22892 The relevant unit for the planning area is the Colville human resource unit.

22893 A common theme across northeastern Washington residents was an appreciation for public lands because  
22894 of outdoor recreation activities, such as hiking, skiing, and OHV use. However, the local economy in the  
22895 Colville human resource unit remains reliant on public land resources. Timber, agriculture, and mining are  
22896 socially and economically important sectors. The varied uses of public lands have the potential to give  
22897 rise to conflict between residents. The Colville human resource unit is traditionally based on cattle  
22898 grazing, timber production, and mining. Despite the growth in recreation participation in the area, some  
22899 residents believe recreation to be less important to the local economy due to the perception that it “does  
22900 not add directly to local government revenue the way that traditional economic sectors do” (JKA 2010,  
22901 pg. 132).

22902 Changes in outdoor recreation habits have led to conflict between users with different recreation values.  
22903 Motorized and non-motorized users often express different recreation values, which can lead to conflict  
22904 on the trails. Some respondents expressed a belief that all areas should be open to OHV use, which has  
22905 been curtailed in many areas as a result of travel management planning. In contrast, non-motorized users  
22906 expressed concern that motorized users jeopardized the safety of other users and the ecological values of  
22907 the land.

22908 A dominant trend across human resource unit s in the JKA report is the social and economic changes  
22909 occurring across the planning area. While many of these changes benefit local residents through outdoor  
22910 recreation opportunities and economic growth, many residents feel that these changes are compromising  
22911 traditional values in the community. Residents who rely on public lands for a living are witnessing a shift  
22912 in attitudes in their communities about how public lands should be used. Whereas commodity uses such  
22913 as grazing and timber were once dominant, the growth in outdoor recreation can come into conflict with  
22914 commodity values.

22915 In addition to the JKA report, a sample of public comments related to social and economic conditions was  
22916 reviewed. Sixteen interest areas were identified and used to code the comments. These include: fire and  
22917 fuels management, citizen involvement, mineral extraction, economic development, wilderness  
22918 designation, ecosystem services, access, livestock grazing, motorized recreation, non-motorized  
22919 recreation, road and trail maintenance, multiple use management, hunting and fishing, timber and forestry,  
22920 forest health, and roadless areas. These interest areas are closely aligned with the values expressed in the  
22921 comments. Promotion of forest health, protection and expansion of diverse recreation opportunities,  
22922 economic development, preservation of public access to NFS lands, and public involvement in agency  
22923 decision-making are values that were present in one or more of the comments in the sample.

22924 A number of public comments expressed a belief that closures and restrictions are antithetical to public  
22925 lands. For these forest users, continued access for recreation and grazing—via motorized and non-  
22926 motorized means—is the paramount concern. One member of the public commented, “We already don’t  
22927 have enough riding areas to enjoy with our families and now there is more ‘take away’? When will it  
22928 end?” This sentiment was common among forest users who believe that wilderness recommendations  
22929 would limit access to their favorite places.

Some individuals argued that because they contribute to trail maintenance, they have a right to forest access. These users believe that they act as stewards of the forest, and efforts to limit their access do not recognize the contributions they make.

Others comments prioritized forest health over public access. These individuals expressed a belief that wilderness designation protects forests and ecosystem services for future generations. One comment claimed that there is an imbalance in the quality of the recreation experience for motorized and non-motorized users - those who value “solitude, quiet, and fresh clean air,” have fewer opportunities.

## Community Resilience

### *Defining Community Resilience*

Community (or socioeconomic) resilience relates to humans’ ability to adapt to social and economic changes. Quigley et al. (1996) define community resilience as: “the capacity of humans to change their behavior, redefine economic relationships, and alter social institutions so that economic viability is maintained and social stresses are minimized”. Numerous studies have attempted to measure community resilience in the Pacific Northwest. The Interior Columbia Basin Ecosystem Management Plan (ICBEMP) assessed the community resilience of all 100 counties in its planning area. Community resilience is a particularly salient topic for Forest Service managers in this region, where many local communities rely on forests for income, employment, and leisure. Forest-dependent communities are more likely to experience social and economic consequences due to changes in forest management.

### *Community Resilience Indicators*

Unfortunately, the definition of community resilience does not offer tools for its measurement. Therefore, indicators are needed to serve as proxies for resilience. Ecologists have found that ecological diversity contributes to ecosystem resilience. This finding can translate to the social sciences—more diverse communities generally adapt to and integrate change more rapidly and successfully than their less diverse counterparts. Using this assumption as a starting point, social scientists have developed numerous measurable indicators to assess community resilience.

Horne and Haynes (1999) use three indicators to measure community resilience for the ICBEMP: economic resilience, lifestyle diversity, and civic infrastructure. An economic diversity index is used as a proxy for economic resilience. Scores on this index range from zero (no diversity) to one (perfect diversity). Table 216 presents the economic diversity index for counties in the planning area. Economic diversity ratings for planning area counties are determined relative to the state’s diversity index. Washington scores 0.740 on the economic diversity index. “High” ratings are assigned to counties with indices at least 95 percent of the state’s index (0.703 or higher). “Medium” ratings are given to counties with indices between 85 percent and 95 percent of the state (0.629 to 0.702). “Low” ratings are assigned to counties that are less than 85 percent as diverse as the state (below 0.629).

**Table 216. Economic diversity index**

Location	Diversity Index	Rating
Ferry County	0.596	Low
Pend Oreille County	0.594	Low
Stevens County	0.674	Medium

Source: IMPLAN 2010

No planning area counties have high levels of economic diversity. Nevertheless, there is variation between planning area counties. Stevens County is significantly more economically diverse than Ferry and Pend Oreille counties, which have low levels of economic diversity. These findings are consistent with the population data presented at the beginning of this section, which found that Ferry and Pend Oreille counties have low population densities. As described earlier, rural areas typically offer fewer economic opportunities.

Lifestyle diversity presents a greater measurement challenge. Horne and Haynes (1999) used the PRIZM market segmentation database. More recently, a Forest Service study was conducted to measure the socioeconomic resilience of Washington counties (Daniels 2004). Rather than relying on a single database, Daniels creates a composite measure of lifestyle diversity. Mobility, ethnicity, degree of urbanness, race, income, and education are used as proxies for lifestyle diversity. Daniels' findings are copied in table 217, for the planning area counties.

**Table 217. Location diversity rating**

Location	Diversity Rating
Ferry County	Low
Pend Oreille County	Low
Stevens County	Low

Source: Daniels 2004, pg. 15

Lifestyle diversity ratings in all planning area counties are categorized as “low.” These findings are consistent with the population density, educational attainment, and race and ethnicity data discussed earlier.

Civic infrastructure includes community leadership and preparedness for change. Given the difficulty of directly measuring civic infrastructure, Horne and Haynes (1999) use population density as a proxy for civic infrastructure. Daniels (2004) explains the intuition for this proxy: “the relative isolation of [low population density] counties results in a lower propensity to establish elements of civic infrastructure” (pg. 18). Density data were previously presented (in the Population Density section). All planning area counties are much less densely populated than the state. These data suggests that the planning area has low levels of civic infrastructure.

Following Daniels' (2004) method, counties with fewer than 10 people per square mile are given “lowest” ratings, which confer a zero score in the composite calculations. Two planning area counties—Ferry and Pend Oreille counties—fall in this category. Counties with population densities between 10 and 30 are given “low” ratings. Stevens County is in this category. No counties in the Colville National Forest planning area are in the “medium” or “high” categories.

#### *Composite Community Resilience Measures*

The three community resilience indicators—economic resilience, lifestyle diversity, and civic infrastructure—re-averaged to calculate composite community resilience ratings. Counties are scored on a zero to three scale (zero is the least resilient). The following table presents the community resilience ratings for planning area counties.

**Table 218. Composite community resilience measures**

Location	Economic Diversity	Lifestyle Diversity	Civic Infrastructure	Composite Score
Ferry County	Low	Low	Lowest	0.67
Pend Oreille County	Low	Low	Lowest	0.67
Stevens County	Medium	Low	Low	1.33

Source: Daniels 2004; Horne and Haynes 1999

In analyzing the community resilience information, it is important to keep in mind that low resilience ratings are not synonymous with “bad,” just as high resilience ratings do not confer superior status. Some residents of low resilience counties may value elements of their counties that are not captured in resilience analysis. For instance, “traditional” social and economic lifestyles may be compromised as a community moves from low to high resilience. This trend was discussed in the Values, Beliefs, and Attitudes section. Community resilience information is relevant for Forest Service managers in considering the consequences of social and economic change. Management actions that alter social or economic activities in low resilience counties are more likely to have pronounced impacts.

Ferry and Pend Oreille counties have the lowest community resilience ratings, both scoring 0.67. This indicates that these counties would be least able to successfully adapt to social and economic changes. Stevens County has a somewhat higher, though still low, community resilience rating. These findings suggest that Forest Service management actions on the Colville National Forest that affect social and economic conditions in the surrounding communities may be difficult to assimilate. The ability of the communities to adapt to, and benefit from, social and economic change is expected to be low.

### *Forest Dependence*

Community resilience data, without further context, may not be particularly useful for estimating the social and economic consequences of Forest Service management actions. Assessing the degree to which planning area counties benefit from forest land is essential to understand the resilience of local communities to Forest Service actions. Counties derive income and employment from the forest products and tourism industries. Additionally, local residents use forests for recreation, spiritual and cultural activities. Frequently, forests also anchor sense of place, which contributes to social well-being. The following table provides the percentage of land in each county that is forested (note: this includes all forest land, not just National Forest System lands).

**Table 219. Forested lands**

Location	Forest Land Area, Percent of Total Land
Ferry County	86.78%
Pend Oreille County	75.76%
Stevens County	75.69%

Source: Daniels 2004, pg. 24

Counties of particular concern are those with low resilience ratings and high forest dependence. Ferry, Pend Oreille, and Stevens counties have very high percentages of forest land, which accounts for at least three-quarters of the land base in each county. Ferry and Pend Oreille counties also have the lowest community resilience ratings. The combination of these factors suggests that Colville National Forest managers should pay particular attention to how management actions would affect the social and economic conditions in these counties.

23034 The percentage of forest land is not a complete measure of dependence on forest resources. The  
 23035 importance of forest-related economic sectors also provides insight into the role of forest lands in the  
 23036 planning area counties. Table 220 shows the contribution of the forestry and commercial logging sectors  
 23037 to employment and income, by county. These findings are consistent with the percentages of forest land  
 23038 by county. Ferry, Pend Oreille, and Stevens counties are all comparatively more reliant on timber-related  
 23039 employment than the state. Furthermore, the forestry and commercial logging industry is more dominant  
 23040 in Washington than it is in the nation as a whole (IMPLAN 2010).

23041 **Table 220. Forestry and commercial logging employment and income, percentage of total**

Location	Forestry and Commercial Logging Employment, % of Total	Forestry and Commercial Logging Employee Compensation, % of Total
Ferry County	2.2%	2.6%
Pend Oreille County	4.3%	10.3%
Stevens County	5.8%	9.9%
Washington State	0.7%	0.9%

23042 Source: IMPLAN 2010

23043 However, timber is not the sole forest resource that contributes to the local economy. Recreation and  
 23044 wildlife-related visits are major contributors to local employment and income. Activities on the Forest,  
 23045 both consumptive (e.g., logging) and non-consumptive (e.g., wildlife viewing), support the local  
 23046 economy. Many of the communities adjacent to the Colville National Forest are reliant on employment in  
 23047 the natural resources sectors (agriculture, forestry, fishing and hunting, and mining). More than one-third  
 23048 of employment in Ione is in natural resources; approximately 10 percent of Kettle Falls, Republic,  
 23049 Metaline Falls, and Newport residents are employed in natural resource sectors (U.S. Census Bureau  
 23050 2012). The economic specialist report contains an assessment of the economic contribution of Forest  
 23051 Service activities to the local economy.

## 23052 Access and Use

### 23053 *Visitor Use Data*

23054 Table 221 presents a breakdown of visitor activities on the Colville National Forest. Activity participation  
 23055 is reported according to the percentage of visitors who engaged in that activity (either alone or in  
 23056 combination with other activities) and the percentage of visitors who reported the activity as their main  
 23057 use of the Forest during their visit. The most commonly reported activities are not necessarily the most  
 23058 frequently reported main activities. For instance, one-fifth (20.9 percent) of Forest visitors reported that  
 23059 they viewed wildlife during their visit. However, only approximately one-half of one percent (0.4 percent)  
 23060 of visitors indicated that wildlife viewing was their primary trip purpose.

23061 The most common activities (by main activity) are downhill skiing and viewing natural features, which  
 23062 were each reported as the main activity by more than 10 percent of visitors. Hiking/walking, relaxing,  
 23063 developed camping, gathering forest products, fishing, and snowmobiling were each the main activities  
 23064 for more than 5 percent of visitors.

23065 The activity participation breakdown indicates that forest users engage in a diverse range of activities.  
 23066 Both motorized (e.g., snowmobiling) and non-motorized activities (e.g., hiking/walking) are common.  
 23067 Furthermore, forest resources provide diverse types of value. Consumptive uses (e.g., fishing and  
 23068 gathering forest products) exist alongside non-consumptive uses (e.g., viewing natural features). This

23069 diversity makes it difficult to generalize about forest uses. The available data suggest that multiple-use  
23070 management of the forests is consistent with existing use patterns.

23071 **Table 221. Activity participation on the Colville National Forest**

Activity	% Participation	% Main Activity
Viewing Natural Features	30.7	12.0
Hiking/Walking	29.0	7.8
Relaxing	28.3	5.7
Downhill Skiing	24.0	23.3
Driving for Pleasure	21.9	2.0
Viewing Wildlife	20.9	0.4
Developed Camping	18.5	8.5
Gathering Forest Products	13.8	8.6
Fishing	13.6	5.5
Picnicking	13.3	0.4
Other Non-motorized	9.1	2.5
Motorized Trail Activity	8.3	4.3
Snowmobiling	7.7	7.2
OHV Use	6.6	1.4
Primitive Camping	6.0	1.7
Motorized Water Activities	6.0	2.2
Bicycling	5.1	1.0
Nature Study	4.9	0.7
Non-motorized Water	4.2	1.1
Hunting	3.6	1.6
Visiting Historic Sites	3.2	0.0
Nature Center Activities	3.1	0.0
Cross-country Skiing	2.6	1.6
Backpacking	2.5	0.4
Resort Use	2.0	0.0
Some Other Activity	1.3	0.4
Other Motorized Activity	0.8	0.7
Horseback Riding	0.7	0.1
No Activity Reported	0.3	0.3

23072 Source: USFS 2012a

23073 *Firewood*

23074 The Colville National Forest provides firewood permits for personal and (limited) commercial use. The  
23075 following table displays the volume and value of firewood cut and sold on the Forest in fiscal year 2012.

23076 **Table 222. Cut and sold firewood, volume and value, FY2012**

Forest	Sold Volume (CCF)	Sold Value	Cut Volume (CCF)	Cut Value
Colville National Forest	10,242.50	\$60,250.00	10,400.60	\$61,240.00

23077 Source: USFS 2012b

For households in the planning area, firewood from the forest may provide an affordable source of heating. Table 223 lists the percentage of households in each county that report using wood as their primary heating source. The three Colville National Forest counties—Ferry, Pend Oreille, and Stevens—have a substantially higher reliance on firewood compared to the state as a whole. Indeed, more than half of households in Ferry County use firewood as their primary heat source. These data suggest that changes to firewood availability on the Colville National Forest would have the potential to affect the well-being of households in the planning area.

**Table 223. Percentage of households with wood as primary heating fuel**

Location	% Households with Wood as Primary Heating Source
Ferry County	52.7%
Pend Oreille County	29.2%
Stevens County	32.2%
Washington State	4.5%

Source: U.S. Census Bureau 2012a

Several of the communities adjacent to the Colville National Forest are particularly reliant on wood as the primary home heating source. Approximately 60 percent of households in Springdale and Marcus use wood as the primary heating source. Nearly half of households in Republic and Northport rely on wood heating (U.S. Census Bureau 2012). Changes to firewood availability on the Colville National Forest could affect household well-being in these communities by affecting the cost of home heating.

### *Forest Access*

NFS lands provide commercial, cultural, and leisure opportunities. Access to these lands is often a chief concern voiced by the public. Approximately 41 percent of the public comments reviewed (7 of 17 unique comments) expressed a primary interest in forest access. Most of these comments addressed the desire for continued access to favorite recreation areas. Both motorized and non-motorized recreation participants expressed concerns related to forest access.

A number of access-related comments argued against recommending additional wilderness areas. One comment claimed that wilderness designation blocks use and enjoyment of the forest by the majority of people. Inventoried roadless areas and travel management planning limit the ability of motorized users to recreate on public lands without restrictions, and some motorized users commented that they feel their recreation opportunities on the forests are being eroded. However, another comment stressed the importance of regulating access so that those who desire quiet and solitude do not need to compete with motorized and mechanized recreation users. Other comments addressed the trade-off between unencumbered access and forest health.

### *Wildfire and the Wildland-urban Interface*

Annually, millions of dollars are spent suppressing wildfires in the United States. In 2007, there were 27 large fires in the U.S. that cost \$547 million to suppress (WFLC 2010). Between 2000 and 2008, the percentage of the Forest Service budget spent on extinguishing wildfires expanded from 25 to 44 percent (WFLC 2010). Furthermore, suppression costs account for only a fraction of the total cost of wildfires. The Western Forestry Leadership Coalition estimates that total wildfire-related expenses range from two to thirty times the reported suppression costs (2010).

A principal reason for the increasing cost is the growing number of homes located in the wildland-urban interface (WUI). Suppression activities are frequently undertaken when wildfire threatens private



property. A century of fire suppression has led to increased frequency of high-intensity wildfire. The spread of the WUI has increased the probability that wildfires would occur near private residences. These two factors—the growth of the WUI and the use of suppression tactics—increase the cost of wildfire. The following table presents the extent of the wildland-urban interface and wildfire risk in the planning area counties.

**Table 224. Homes in wildland-urban interface and wildfire risk**

Location	WUI Homes as % of Total Homes	West-wide Rank by Existing Risk (of 413 counties)	West-wide Rank by Potential Risk (of 413 counties)
Ferry County	21.2%	115	46
Pend Oreille County	34.8%	81	58
Stevens County	18.6%	41	10
Washington State	8.1%	--	--

Source: Gude et al. 2008

WUI development is a major land use in Ferry, Pend Oreille, and Stevens counties. Wildfire and fire management activities, therefore, are likely to affect private property and quality of life in communities near the Colville National Forest. While the WUI is correlated with wildfire risk, Forest Service activities, such as fuel reduction projects and old growth management, may also influence the risk and hazard of wildfire.

## Need for Change

### *Old Forest Management and Timber Production*

Some members of the public are concerned that the proposed action does not protect old forests and wildlife habitat as well as the current forest plan. Other members of the public are concerned that the proposed action does not allow enough timber production, which hurts the economy. Some are also concerned that the proposed action limits the Forest Service's ability to defend forests from insects, disease, and fire.

### *Motorized Recreation Trails*

Public comments reflected opposing desires regarding motorized recreation opportunities, particularly the distribution and quantity of motorized trails. Some members of the public expressed concerns that the distribution and quantity of motorized trails negatively affects tourism and the local economy, while other stakeholders<sup>5</sup> said that they want fewer miles of motorized trails and that they do not like the resource damage, noise, and conflict associated with them.

### *Access*

Some stakeholders expressed concern that the proposed action does not provide enough roads for recreation, grazing, fire suppression, timber harvest, and firewood collection. They commented that lack of access would have a negative impact on economic well-being. Other stakeholders expressed concern that the Forest Service does not have the capacity to maintain the current road network and that unmaintained roads damage wildlife, water, and fish.

<sup>5</sup> Stakeholders are members of the public that have an interest in use and management of the Colville National Forest

23146 *Recommended Wilderness Areas*

23147 While forest plans may make a preliminary recommendation for additional wilderness, only Congress can  
23148 designate wilderness. Some stakeholders are concerned that the proposed action recommends too much  
23149 additional wilderness. They commented that more wilderness areas hurt the economy by limiting timber  
23150 harvest, grazing, mountain biking, and motorized recreation. Members of the public also raised concerns  
23151 about the increased cost of managing additional wilderness.

23152 Other stakeholders said that the proposed action does not include enough additional wilderness areas; they  
23153 want more. They said that they want to make sure that wilderness provides habitat connections for  
23154 wildlife. Additionally, some members of the public are concerned about protecting the uniqueness of these  
23155 areas, and they said that additional wilderness improves the local economy.

23156 *Wildlife*

23157 The public is concerned that the proposed action does not adequately protect wildlife. They said that they  
23158 want more protection for federally listed species such as grizzly bear, lynx, caribou, and other wildlife  
23159 species of concern such as wolverine and northern goshawk. To protect these species, stakeholders said  
23160 they want connected habitats, habitats that are not disturbed by roads and trails, as well as more large  
23161 trees and snags.

23162 Other stakeholders are concerned that increasing wildlife protection decreases opportunities for  
23163 recreation, timber production, and livelihoods.

23164 *Riparian and Aquatic Resource Management*

23165 Some members of the public expressed concern that the proposed action does not adequately protect  
23166 riparian areas such as those adjacent to streams, lakes, wetlands, and rivers. They said that they want the  
23167 Forest Service to limit the negative effects of roads, grazing, and off-highway vehicles in these areas.  
23168 Other members of the public are concerned that the protection of these aquatic resources limits timber  
23169 production, grazing, and recreation.

23170 Public comments raised concerns that the proposed action does not provide watershed and aquatic  
23171 resource protections that are as effective as current forest plan direction. Concerns centered on managing  
23172 possible detrimental impacts of uses such as roads, livestock grazing, and motorized trails in riparian  
23173 areas

23174 *Environmental Consequences*

23175 *Methodology*

23176 *Assumptions*

- 23177 • Assume the budget levels would continue along current trend lines, with the possibility of the  
23178 amount varying by 20 percent plus or minus.
- 23179 • The identification of social values relies on the James Kent Associates report (JKA 2010), public  
23180 scoping comments, and discussions with Forest staff.
- 23181 • The effects of recommended wilderness areas are based on the assumption that these areas would  
23182 be designated as wilderness by Congress.
- 23183 • Higher road density improves forest access for both commercial and recreational forest users.
- 23184 • Economic and leisure opportunities on the forest are utilized at levels similar to existing  
23185 conditions.

**Methods of analysis**

The social analysis combines Forest Service data on resource use (recreation, grazing, forest products, and minerals) with information on social values to estimate how changes in forest management would affect human well-being.

The Forest Service resource data was obtained from:

- National visitor use monitoring program (recreation)
- Cut and sold reports (forest products)
- Natural Resources Manager (minerals and grazing)

Information on social values, as described in the affected environment section, is based on public comments and the report on the attitudes of eastern Washington residents toward public lands (JKA 2010).

The evaluation criteria and indicators used in this analysis are described at the beginning of this section.

**Incomplete and Unavailable Information**

Uncertainty about future demographic change, social values and norms, and market conditions constrain the reliability of projections of the social environment in fifteen years.

**Spatial and Temporal Context for Effects Analysis**

The spatial context for the social effects analysis includes Ferry, Pend Oreille, and Stevens counties. Due to the programmatic nature of forest planning, site-specific consequences cannot typically be estimated. Therefore, the social analysis estimates effects at the regional (3-county) level.

The temporal context for the analysis extends fifteen years, which is the expected life of a forest plan.

**No-action Alternative**

The no-action alternative is less likely to protect old forests and their associated social values than the proposed action. As a result, the flow of ecosystem services to adjacent communities may decrease while the risk of wildfire to private property and human health would increase. Access, recreational opportunities, and other forest uses that support quality of life and community resilience would not change relative to current conditions. Lower forest resilience may decrease the production of culturally-important foods, which may affect tribal interests and well-being.

**Old Forest Management and Timber Production**

The no-action alternative would not alter old forest management on the Colville National Forest. Old growth management areas and the Eastside Screens would continue to regulate forest activities to protect old forest habitat. The old forest reserves would continue to account for approximately three percent of the Colville National Forest. However, old forests are expected to decline due to disturbances such as fire and insects, competition for water and nutrients, and age. Wildfire risk to adjacent communities would continue, which may affect private property and human health. Climate change is expected to exacerbate tree mortality and threats to human health and property (Gaines et al. 2012). Under the no-action alternative, only 23 percent of the Colville National Forest would be within the historic range. This alternative has the highest risk of uncharacteristic wildfire to communities adjacent to the forest.

The no-action alternative would do less to protect old forests than the proposed action. Forest visitors and interest groups value old forest for wildlife viewing, spiritual opportunities, and non-use values (e.g.,

23225 knowing that old forests exist and may be seen by future generations). The no-action alternative would  
23226 also be less likely to sustain a flow of ecosystem services related to old forests—including wildlife habitat  
23227 and spiritual values—than the proposed action. Therefore, communities that rely on the Colville National  
23228 Forest for ecosystem services may have their quality of life decline compared to management under the  
23229 proposed action alternative.

23230 The no-action alternative would lead to the harvest of approximately 41 million board feet annually.  
23231 Wood products harvested from the Colville National Forest supports employment and income in the local  
23232 economy, as described in the economics specialist report. The no-action alternative would not affect  
23233 firewood harvesting. Firewood would continue to be removed from the forest, in quantities similar to  
23234 current conditions. As described in the affected environment section, firewood is an important home  
23235 heating source in the planning area. The no-action alternative would not change the availability of  
23236 firewood in nearby communities. Therefore, no changes to quality of life or household expenditures  
23237 related to home heating and firewood are expected as a result of this alternative.

### 23238 Motorized Recreation Trails

23239 Currently, 11 percent of the Colville National Forest is designated as backcountry non-motorized areas.  
23240 This designation, together with the three percent of the forest in designated wilderness, does not allow  
23241 roads or motorized trails. The no-action alternative would maintain the existing levels of these  
23242 designations, making 15 percent of the forest off-limits to motorized recreation. Non-motorized  
23243 designations may positively affect social values related to ecological health and opportunities for solitude.  
23244 Such designation may adversely affect the quality of life for motorized recreation users and those with  
23245 commercial interests in the forests, whose access may be inhibited by non-motorized designations. The  
23246 no-action alternative would not change non-motorized designations from existing levels; therefore, no  
23247 change in human well-being related to motorized recreation is expected as a result of this alternative.  
23248 However, this alternative would limit the potential for future expansion of motorized backcountry  
23249 recreation relative to the proposed action, which would inhibit the forest's ability to respond to changes in  
23250 recreation demand and may reduce quality of life for visitors who value those opportunities.

23251 Recreation activities that rely on motorized roads and trails - driving for pleasure, motorized trail activity,  
23252 snowmobiling, OHV use, other motorized activity—account for 15.6 percent of individuals' main purpose  
23253 for visiting the Colville National Forest. The overall participation in these activities is approximately 45  
23254 percent (USFS 2012a). The participation rate in motorized activities and the quality of the visit are not  
23255 expected to change based on management actions under the no-action alternative.

### 23256 Access

23257 The no-action alternative would continue to follow current plan direction and policy related to road  
23258 density, including limits on building roads in deer and elk winter range and the 2001 Roadless Area  
23259 Conservation Rule, which prohibits building roads in inventoried roadless areas. Management actions  
23260 related to road density under the no-action alternative are not expected to meaningfully affect individuals'  
23261 ability to access and enjoy the Colville National Forest. Therefore, no changes to quality of life or  
23262 community resilience are expected to occur.

### 23263 Recommended Wilderness Areas

23264 The no-action alternative would maintain current designated wilderness at 31,400 acres, which is  
23265 approximately 3 percent of the Colville National Forest. The National Visitor Use Monitoring survey  
23266 estimates that less than one percent of visits to the forest are to a designated wilderness area (USFS  
23267 2012a). None of the survey respondents reported overcrowding in designated wilderness during their

visit. These findings suggest that current designated wilderness is adequate to satisfy recreational demand for wilderness.

The social value of designated wilderness is not limited to recreation. Wilderness designation may provide amenity values to nearby residents and landowners, support ecosystem service provision (e.g., clean water and carbon sequestration), and offer opportunities for research and environmental education. Designated wilderness may protect “non-use” values. Non-use values arise not from the consumption of goods or services provided by wilderness areas, but from the value of knowing it exists or preserving the option to visit in the future. Among all the considered alternatives, the no-action alternative would do the least to support social values related to designated wilderness.

### Environmental Justice

The largest minority group in all three counties of the Colville National Forest planning area is Native Americans. The Tribal and Treaty Resources report describes potential consequences to Native American populations in the vicinity of the Colville National Forest. In particular, the no-action alternative would be less likely to provide culturally significant foods, due to lower forest resilience to disease and insects.

Communities in proximity to the Colville National Forest have higher rates of poverty than the state and the nation. Therefore, actions that adversely affect employment, income, or the cost of participating in activities on the forest may disproportionately affect low-income individuals. The no-action alternative is not expected to change employment, income, or the cost of participating in activities on the forest relative to current conditions. Therefore, the no-action alternative would not adversely and disproportionately affect low-income individuals.

### Cumulative Effects

Lower forest resilience may interact with residential development on private lands adjacent to the Colville National Forest to increase risks to private property and human health from wildfire.

Disturbances on adjacent Federal lands, such as disease and insects, may exacerbate threats to the provision of ecosystem services, including culturally significant foods. The cumulative effect of disturbances across jurisdictions may affect community resilience and well-being, as the availability of substitute opportunities diminishes.

### Monitoring Recommendations

The Forest Service may contribute to community resilience and well-being. Monitoring of human communities should evaluate whether management actions contributing to social and economic sustainability. This may be measured along the following dimensions:

- Resource use patterns
  - Visitor use and distribution
  - Firewood collection
  - Timber harvest
  - AUMs
- Population characteristics and change
  - Population growth
  - Income changes
  - Educational attainment

- 23308      • Employment and income from resource uses
- 23309      • Revenue to states and counties
- 23310              ○ PILT
- 23311              ○ Revenue sharing
- 23312      • Wildfire risk to adjacent communities
- 23313              ○ Total acres burned
- 23314              ○ Acres burned near wildland-urban interface.

## 23315      **Proposed Action**

23316      *Because of the lack of active management of timber harvest, our forest has insect infestations, disease and*  
23317      *stand replacing wildfires..."*

23318      The proposed action would improve old forest resilience. As a result, the flow of ecosystem services to  
23319      adjacent communities would be sustained and the risk of wildfire to private property and human health  
23320      would decrease. The proposed action would moderately affect access and motorized recreation  
23321      opportunities, although the effect to quality of life and visitor satisfaction is expected to be low. Increased  
23322      forest resilience may support the production of culturally-important foods, which may affect tribal  
23323      interests and well-being.

## 23324      **Old Forest Management and Timber Production**

23325      The proposed action would manage 23 percent of the forest for focused restoration and 48 percent of the  
23326      forest for general restoration. Both focused and general restoration management would aim to restore  
23327      ecological integrity and improve ecosystem function. Focused restoration emphasizes the protection of  
23328      important fish and wildlife habitats. Restoration may improve resilience to fire, insects, and disease.  
23329      Increased forest resilience to climate change and other stressors may reduce wildfire risk in adjacent  
23330      communities (Gaines et al. 2012). Under the proposed action, 27 percent of the Colville National Forest  
23331      would be within the historic range. This would lower the risk of uncharacteristic wildfire to affect  
23332      communities adjacent to the forest compared to the no-action alternative. Reduced wildfire risk promotes  
23333      social values related to health and safety, the protection of private property, and preservation of aesthetic  
23334      quality.

23335      Restoration would also provide commercially valuable forest products. The proposed action alternative  
23336      would lead to the harvest of approximately 62 million board feet annually. This is an increase in harvest  
23337      volume compared to the no-action alternative. The local economic consequences of wood product  
23338      harvesting are described in the economics specialist report. In addition to supporting economic activity,  
23339      the landscape-level approach to old forest management would protect the flow of ecosystem services  
23340      related to old forests. As discussed above, old forests provide numerous values such as recreation,  
23341      spiritual fulfillment, and species viability.

23342      The proposed action alternative does not retain the Eastside Screens, which may concern individuals and  
23343      groups who value the protection of large-diameter trees. However, the proposed action alternative would  
23344      protect late forest structure at a landscape level. The desired conditions for late forest structure under the  
23345      proposed action would ameliorate social concerns related to loss of large-diameter trees.

23346      Under the proposed action, the quantity of firewood harvested from the Colville National Forest annually  
23347      would be similar to current conditions. Firewood would continue to be an important source of home

23348 heating in the planning area. No changes to quality of life or household expenditures related to home  
23349 heating and firewood are expected as a result of this alternative.

### 23350 Motorized Recreation Trails

23351 The proposed action would expand backcountry motorized opportunities from one percent of the forest to  
23352 six percent. This increase in backcountry motorized opportunities may improve quality of life for  
23353 motorized recreation users who value undeveloped sites. Overall, the proposed action would reduce total  
23354 forest acres open to summer and winter motorized recreation relative to the no-action alternative.  
23355 Approximately 684,400 acres would be open to winter motorized recreation and 872,300 acres would be  
23356 open to summer motorized recreation. These acreages reflect reductions of approximately 30,000 and  
23357 90,000 acres, respectively. The increase in recommended wilderness would place limits on future  
23358 development of motorized activities relative to the no-action alternative. On balance, the proposed action  
23359 alternative is not expected to measurably change motorized use or visitor satisfaction relative to existing  
23360 conditions.

### 23361 Access

23362 The desired road density under the proposed action is between two and three miles of roads per square  
23363 mile. This density is somewhat lower than current conditions; therefore, management actions related to  
23364 road density under the proposed action may affect some individuals' ability to access and enjoy the  
23365 Colville National Forest. Reduced access may adversely affect quality of life and community resilience,  
23366 due to increased costs (time and fuel) of participating in activities, such as recreation and firewood  
23367 collection, on the forest.

### 23368 Recommended Wilderness Areas

23369 The proposed action would recommend an additional 101,390 acres of wilderness, which represents  
23370 approximately 9 percent of the Colville National Forest. The National Visitor Use Monitoring survey  
23371 estimates that less than 1 percent of visits to the forest are to a designated wilderness area (USFS 2012a).  
23372 None of the survey respondents reported overcrowding in designated wilderness during their visit. These  
23373 findings suggest that current designated wilderness is adequate to satisfy recreational demand for  
23374 wilderness.

23375 The social value of designated wilderness is not limited to recreation. Wilderness designation may  
23376 provide amenity values to nearby residents and landowners, support ecosystem service provision (e.g.,  
23377 clean water and carbon sequestration), and offer opportunities for research and environmental education.  
23378 Designated wilderness may protect "non-use" values. Non-use values arise not from the consumption of  
23379 goods or services provided by wilderness areas, but from the value of knowing it exists or preserving the  
23380 option to visit in the future. The proposed action would do more to support social values related to  
23381 designated wilderness than the no-action, P, and O alternatives.

### 23382 Environmental Justice

23383 The largest minority group in all three counties of the Colville National Forest planning area is Native  
23384 Americans. The Tribal and Treaty Resources report describes potential consequences to Native American  
23385 populations in the vicinity of the Colville National Forest. Unlike the no-action alternative, the proposed  
23386 action would be more likely to provide culturally significant foods, due to improved forest resilience to  
23387 disease and insects. However, the proposed action would decrease road density and forest access relative  
23388 to current conditions, which may particularly affect the ability of elders to access cultural sites, hunting  
23389 and fishing grounds, and gathering areas.

23390 Communities in proximity to the Colville National Forest have higher rates of poverty than the state and  
23391 the nation. Therefore, actions that adversely affect employment, income, or the cost of participating in  
23392 activities on the forest may disproportionately affect low-income individuals. The proposed action is not  
23393 expected to change employment or income relative to current conditions. However, the increase in  
23394 recommended wilderness and reduced road density may increase the cost of accessing the forest, which  
23395 may disproportionately affect low-income individuals.

23396 The increased areas open to the harvesting of firewood could benefit low-income individuals, as they may  
23397 need to spend fewer resources traveling to an area on the forest where they can harvest firewood for home  
23398 heating.

### 23399 Cumulative Effects

23400 Residential development on private lands adjacent to the Colville National Forest may inhibit the use of  
23401 prescribed fire as a forest restoration tool, due to social concerns about smoke emissions. Therefore,  
23402 private land development could make it more difficult and costly to increase forest resilience.

23403 Disturbances on adjacent Federal lands, such as disease and insects, may affect the health of the Colville  
23404 National Forest. For example, invasive vegetation on adjacent lands may spread to the Colville National  
23405 Forest. However, other Federal actions to improve forest resilience would support the provision of  
23406 ecosystem services, including culturally significant foods on both the Colville National Forest and  
23407 adjacent Federal lands. The cumulative effect of disturbances across jurisdictions may affect community  
23408 resilience and well-being, as the availability of substitute opportunities changes.

### 23409 Monitoring Recommendations

23410 The monitoring recommendations are consistent with those identified for the no-action alternative.

## 23411 Alternative R

23412 *Many species rely on mature or old-growth forests to survive, so these types of forests must be protected*  
23413 *and actively managed.*

23414 Alternative R responds to public comments that support old forest protection through static late forest  
23415 structure reserve land allocations and a 21-inch upper diameter limit on cutting trees. It also addresses  
23416 comments advocating for increased wilderness, fewer miles of motorized trail, and additional protections  
23417 for wildlife. This alternative is based on a management option developed by a coalition of conservation  
23418 groups.

23419 The R alternative would increase the acres dedicated to late forest structure, which would support social  
23420 well-being related to wildlife habitat and existence values. However, the R alternative would do less than  
23421 the proposed action to improve forest resilience, which may affect the flow of ecosystem services and the  
23422 threat of uncharacteristic wildfire in adjacent communities. The R alternative would be the least  
23423 supportive of commodity and other consumptive uses of the forest among all considered alternatives, due  
23424 to decreased access and motorized recreation opportunities, the expansion of recommended wilderness,  
23425 and limitations on the collection of firewood. The R alternative would appeal to individuals who value  
23426 limited human interference in the forest.

## 23427 Old Forest Management and Timber Production

23428 The R alternative would maintain the current reserve management approach to maintaining late forest  
23429 structure. The R alternative would increase the late forest structure areas to approximately 44 percent of  
23430 the forest. This management would promote species viability and related social values, such as recreation



and spiritual fulfillment. However, high stand density in the old forest reserves may increase the potential for uncharacteristic insect outbreaks, fire, and tree mortality. Fires adjacent to communities may adversely affect private property and human health. Climate change would exacerbate these threats and reduce well-being in communities near the forest (Gaines et al. 2012).

Outside the late forest structure areas, general restoration would be used to provide a resilient forest. The R alternative would manage 25 percent of the forest for general restoration, which may improve resilience to fire, insects, and disease. Increased forest resilience may reduce wildfire risk in adjacent communities. Reduced wildfire risk promotes social values related to health and safety, the protection of private property, and preservation of aesthetic quality. Under the R alternative, 27 percent of the Colville National Forest would be within the historic range. This is consistent with the proposed action.

Restoration would also provide commercially valuable forest products. The R alternative would lead to the harvest of approximately 14 million board feet annually. This is the lowest average annual harvest volume among all alternatives. The local economic consequences of wood product harvesting on the Colville National Forest are described in the economics specialist report. The R alternative would impose more restrictions on harvesting of firewood than the proposed action. Approximately 3,200 ccf (hundred cubic feet) of firewood would be harvested annually under the R alternative, compared to 8,900 ccf under all other alternatives. These restrictions may increase the difficulty of accessing and harvesting firewood for personal use. These restrictions may increase the cost (e.g., time) of harvesting firewood from the Colville National Forest. These restrictions may adversely affect household well-being in communities adjacent to the forest.

#### Motorized Recreation Trails

The R alternative would reduce the share of the forest open to motorized recreation. Fewer motorized recreation opportunities may reduce visitor satisfaction and quality of life for motorized recreation users. The reduction in motorized opportunities may increase the pressure on available motorized roads and trails. Crowding may reduce visitor satisfaction and may result in resource damage along trails. However, non-motorized recreation users may benefit from decreased potential for interaction with motorized users, which may promote social values related to safety, solitude, and resource protection in the backcountry.

Summer and winter motorized use would be more limited under the R alternative compared to no action and the proposed action. Acres open to summer and winter motorized use would be similar to the acres open under the B alternative. Approximately 836,500 acres would be open for summer motorized use and 651,300 acres would be open for winter motorized use. Individuals and groups who value motorized recreation on the Colville National Forest may experience reductions in quality of life under this alternative.

#### Access

The desired road density under the R alternative is between one and two miles per square mile, which is a reduction in density relative to current conditions. Lower road density may affect forest access, which is valuable to many individuals who recreate or engage in economic activities (e.g., firewood collection) on the forest. Lower road density may negatively affect quality of life for individuals who value the forest for motorized recreation and livelihood activities. However, reduced road density may positively affect social values related to ecological integrity and ecosystem services. Fewer roads may decrease sedimentation, habitat fragmentation, and disturbance to non-motorized forest visitors.

## Recommended Wilderness Areas

The R alternative would recommend an additional 207,800 acres of wilderness, which represents approximately 19 percent of the Colville National Forest. The National Visitor Use Monitoring survey estimates that less than one percent of visits to the forest are to a designated wilderness area (USFS 2012a). None of the survey respondents reported overcrowding in designated wilderness during their visit. These findings suggest that current designated wilderness is adequate to satisfy recreational demand for wilderness.

The social value of designated wilderness is not limited to recreation. Wilderness designation may provide amenity values to nearby residents and landowners, support ecosystem service provision (e.g., clean water and carbon sequestration), and offer opportunities for research and environmental education. Designated wilderness may protect “non-use” values. Non-use values arise not from the consumption of goods or services provided by wilderness areas, but from the value of knowing it exists or preserving the option to visit in the future. The R alternative would do the second most (after B) to support social values related to designated wilderness.

## Environmental Justice

The largest minority group in all three counties of the Colville National Forest planning area is Native Americans. The Tribal and Treaty Resources report describes potential consequences to Native American populations in the vicinity of the Colville National Forest. Similar to the no-action alternative, the R alternative would be less likely to provide culturally significant foods, due to lower forest resilience to disease and insects. Furthermore, the R alternative would decrease road density and forest access relative to current conditions, which may particularly affect the ability of elders to access cultural sites, hunting and fishing grounds, and gathering areas.

Communities in proximity to the Colville National Forest have higher rates of poverty than the state and the nation. Therefore, actions that adversely affect employment, income, or the cost of participating in activities on the forest may disproportionately affect low-income individuals. The R alternative is not expected to change employment or income relative to current conditions. However, the increase in recommended wilderness and reduced road density may increase the cost of accessing the forest, which may disproportionately affect low-income individuals.

The expected reductions in firewood harvest could disproportionately low-income individuals in communities adjacent to the Colville National Forest, as it may be more costly to access and cut firewood for home heating.

## Cumulative Effects

Lower forest resilience may interact with residential development on private lands adjacent to the Colville National Forest to increase risks to private property and human health from wildfire. Additionally, disturbances on adjacent Federal lands, such as disease and insects, may exacerbate threats to the provision of ecosystem services, including culturally significant foods. The cumulative effect of disturbances across jurisdictions may affect community resilience and well-being, as the availability of substitute opportunities diminishes.

The expansion of resource protections under the R alternative—particularly reduced road density and increased recommended wilderness acreage—may offset social concerns about the loss of forest lands elsewhere in the three-county area, particularly related to the conversion of private forest land for residential development.

23514 **Monitoring Recommendations**

23515 The monitoring recommendations are consistent with those identified for the no-action alternative.

23516 **Alternative P**

23517 *[M]y perception so far is that wilderness eliminates mountain bikes, mechanical trail maintenance, forest*  
23518 *management, fire response ability, any form of motorized shared use, and doesn't seem to play well with*  
23519 *the cattle grazers or other land users."*

23520 Many public comments expressed concern that wilderness designation may result in lower revenue to  
23521 local economies due to reduced recreational opportunities. This alternative utilizes many plan components  
23522 from the proposed action while also addressing economic concerns associated with wilderness.

23523 The P alternative would improve old forests resilience. As a result, the flow of ecosystem services to  
23524 adjacent communities would be sustained and the risk of wildfire to private property and human health  
23525 would decrease. The P alternative would decrease road density, which may affect access, community  
23526 resilience, and quality of life for individuals who rely on the forests for economic and leisure  
23527 opportunities. Increased forest resilience may support the production of culturally important foods, which  
23528 may affect tribal interests and well-being.

23529 **Old Forest Management and Timber Production**

23530 The P alternative would manage 28 percent of the forest for focused restoration and 45 percent of the  
23531 forest for general restoration. This distribution is similar to the proposed action alternative and the effects  
23532 would be the same as described under for the proposed action alternative.

23533 Restoration may improve resilience to fire, insects, and disease. Increased forest resilience may reduce  
23534 wildfire risk in adjacent communities. Reduced wildfire risk promotes social values related to health and  
23535 safety, the protection of private property, and preservation of aesthetic quality. Under the P alternative,  
23536 27 percent of the Colville National Forest would be within the historic range. This is consistent with the  
23537 proposed action and alternative R.

23538 Focused restoration would also provide commercially valuable forest products. The P alternative would  
23539 lead to the harvest of approximately 62 million board feet of wood products annually. This is similar to  
23540 the proposed action alternative. The economics specialist report describes the local economic  
23541 consequences of wood product harvest from the Colville National Forest. In addition to supporting  
23542 economic activity, the landscape-level approach to old forest management would protect the flow of  
23543 ecosystem services related to old forests. As discussed above, old forests provide numerous values such as  
23544 recreation, spiritual fulfillment, and species viability.

23545 The P alternative does not retain the Eastside Screens, which may concern individuals and groups who  
23546 value the protection of large-diameter trees. However, the P alternative would protect late forest structure  
23547 at a landscape level. The desired conditions for late forest structure under the P would ameliorate social  
23548 concerns related to loss of large-diameter trees.

23549 Under the P alternative, the quantity of firewood harvested from the Colville National Forest annually  
23550 would be similar to current conditions. Firewood would continue to be an important source of home  
23551 heating in the planning area. No changes to quality of life or household expenditures related to home  
23552 heating and firewood are expected as a result of this alternative.

### Motorized Recreation Trails

The P alternative would increase backcountry motorized opportunities from approximately 1 percent of the forest to 5 percent of the forest. The effects would be the same as described for the proposed action alternative.

The P alternative would keep the largest share of the forest open to summer and winter motorized recreation among action alternatives. 684,900 acres would be open to winter motorized recreation and 873,300 acres would be open to summer motorized recreation. Only the no-action alternative would have the potential for more motorized recreation opportunities. The P alternative would provide a variety of motorized opportunities on the forest and would support quality of life for motorized recreation users. The P alternative would do less to address concerns of individuals and group who oppose motorized recreation than the R alternative.

However, the increase in recommended wilderness would place limits on future development of motorized activities relative to the no-action alternative. On balance, the P alternative is not expected to change motorized use or visitor satisfaction relative to existing conditions. Therefore, the effects would be similar to those described under the no-action alternative.

### Access

The desired road density under the P alternative is between one and two miles per square mile, which is a reduction in density relative to current conditions. Lower road density may affect forest access, which is valuable to many individuals who recreate or engage in economic activities on the forest. Lower road density may negatively affect quality of life for individuals who value the forest for motorized recreation and livelihood activities. However, reduced road density may positively affect social values related to ecological integrity and ecosystem services. Fewer roads may decrease sedimentation, habitat fragmentation, and disturbance to non-motorized forest visitors.

### Recommended Wilderness Areas

The P alternative would recommend an additional 68,300 acres of wilderness, which represents approximately 6 percent of the Colville National Forest. The National Visitor Use Monitoring survey estimates that less than one percent of visits to the forest are to a designated wilderness area (USFS 2012a). None of the survey respondents reported overcrowding in designated wilderness during their visit. These findings suggest that current designated wilderness is adequate to satisfy recreational demand for wilderness.

The social value of designated wilderness is not limited to recreation. Wilderness designation may provide amenity values to nearby residents and landowners, support ecosystem service provision (e.g., clean water and carbon sequestration), and offer opportunities for research and environmental education. Designated wilderness may protect “non-use” values. Non-use values arise not from the consumption of goods or services provided by wilderness areas, but from the value of knowing it exists or preserving the option to visit in the future. Among all the considered alternatives, the P alternative would do less to support social values related to designated wilderness than all considered alternatives except the O alternative.

### Environmental Justice

The largest minority group in all three counties of the Colville National Forest planning area is Native Americans. The Tribal and Treaty Resources report describes potential consequences to Native American populations in the vicinity of the Colville National Forest. Unlike the no-action alternative, the P alternative would be more likely to provide culturally significant foods, due to improved forest resilience

23596 to disease and insects. However, the P alternative would decrease road density and forest access relative  
23597 to current conditions, which may particularly affect the ability of elders to access cultural sites, hunting  
23598 and fishing grounds, and gathering areas.

23599 Communities near Colville National Forest have higher rates of poverty than the State and the Nation.  
23600 Therefore, actions that adversely affect employment, income, or the cost of participating in activities on  
23601 the forest may disproportionately affect low-income individuals. The P alternative is not expected to  
23602 change employment or income relative to current conditions. However, the increase in recommended  
23603 wilderness and reduced road density may increase the cost of accessing the forest, which may  
23604 disproportionately affect low-income individuals.

23605 The increased areas open to the harvesting of firewood could benefit low-income individuals, as they may  
23606 need to spend fewer resources traveling to an area on the forest where they can harvest firewood for home  
23607 heating.

### 23608 Cumulative Effects

23609 Residential development on private lands adjacent to the Colville National Forest may inhibit the use of  
23610 prescribed fire as a forest restoration tool, due to social concerns about smoke emissions. Therefore,  
23611 private land development could make it more difficult and costly to increase forest resilience.

23612 Disturbances on adjacent Federal lands, such as disease and insects, may affect the health of the Colville  
23613 National Forest. For example, invasive vegetation on adjacent lands may spread to the Colville National  
23614 Forest. However, other Federal actions to improve forest resilience would support the provision of  
23615 ecosystem services, including culturally significant foods on both the Colville National Forest and  
23616 adjacent Federal lands. The cumulative effect of disturbances across jurisdictions may affect community  
23617 resilience and well-being, as the availability of substitute opportunities changes.

23618 The expansion of resource protections under the P alternative—particularly reduced road density—may  
23619 offset social concerns about the loss of forest lands elsewhere in the three-county area, particularly related  
23620 to the conversion of private forest land for residential development.

### 23621 Monitoring Recommendations

23622 The monitoring recommendations are consistent with those identified for the no-action alternative.

### 23623 Alternative B

23624 This alternative combines feedback from diverse interest groups and incorporates management strategies  
23625 supported by the Northeast Washington Forestry Coalition. Alternative B addresses the concerns of  
23626 multiple constituencies in one alternative by designating restoration and timber management zones,  
23627 recommending the highest level of wilderness designation and the least amount of area for backcountry  
23628 management and backcountry motorized use.

23629 The B alternative is less likely to protect old forests and their associated social values than the proposed  
23630 action. As a result, the flow of ecosystem services to adjacent communities may decrease while the risk of  
23631 wildfire to private property and human health would increase. Lower forest resilience may decrease the  
23632 production of culturally important foods, which may affect tribal interests and well-being. Access and  
23633 roaded motorized recreation opportunities would not measurably change relative to current conditions,  
23634 which would support social values related to commodity use and more developed recreation  
23635 opportunities. However, backcountry motorized opportunities are the lowest among all considered  
23636 alternatives, which would reduce the quality of life for visitors who value backcountry motorized  
23637 opportunities. The B alternative would have the highest acreage in recommended wilderness among all

considered alternatives. The B alternative would support social values related to wilderness, such as research and education, solitude, and scenic views.

### Old Forest Management and Timber Production

The B alternative would manage 31 percent of the forest as a restoration zone. Management actions in this area would promote social values related to ecological health and the provision of ecosystem services, such as clean water and wildlife habitat. However, increased stand density may contribute to the spread of insects, fire, and tree mortality, which may compromise some of the social values related to old forests. Fire adjacent to communities may adversely affect private property and human health. Under the B alternative, 38 percent of the Colville National Forest would be within the historic range. This alternative has the lowest risk of uncharacteristic wildfire among the considered alternatives. Reduced wildfire risk promotes social values related to health and safety, the protection of private property, and preservation of aesthetic quality.

Forty-three percent of the forest would be managed to provide a stable flow of timber and to improve the forest's resilience to insects, disease, and uncharacteristic fire. Management actions in this area would promote social values related to human safety and the protection of private property from wildfire and economic stability in the forest products sector. The B alternative would lead to the harvest of approximately 37 million board feet of wood products annually. This is approximately 60 percent of the volume that is expected to be harvested under the proposed action. The economic contribution of the B alternative to employment and income in the forest products sector is described in the economics specialist report.

The B alternative would maintain the Eastside Screen direction, which prevents the harvest of large-diameter trees. This direction would protect old growth-dependent species habitat and promote both use (e.g., recreation and wildlife viewing) and non-use (e.g., knowing that it exists) values associated with the forest. However, the Eastside Screens reduce the ability to maintain or enhance late forest structure on the Colville National Forest if it is not present within the reserve. In contrast, the proposed action alternative adopts a landscape approach to protect late forest structure. Some individuals and groups prefer the Eastside Screen direction due to a desire to prevent the harvesting of large-diameter trees. The values of these individuals and groups are reflected in the B alternative.

Under the B alternative, the quantity of firewood harvested from the Colville National Forest annually would be similar to current conditions. Firewood would continue to be an important source of home heating in the planning area. No changes to quality of life or household expenditures related to home heating and firewood are expected as a result of this alternative.

### Motorized Recreation Trails

The B alternative would provide the fewest summer and winter motorized recreation opportunities in the backcountry. As a result, individuals who value less developed recreation opportunities would be less satisfied with their visit and experience a lower quality of life.

Summer and winter motorized use would be more limited under the B alternative compared to no action and proposed action. Acres open to summer and winter motorized use would be similar to the acres open under the R alternative. Approximately 840,000 acres would be open for summer motorized use and 653,900 acres would be open for winter motorized use. Individuals and groups who value motorized recreation on the Colville National Forest may experience reductions in quality of life under this alternative.

## Access

The B alternative would cap existing levels of total miles of Forest Service System roads at the current level. Therefore, this alternative would require that existing roads be decommissioned if new roads are added. This action is not expected to reduce forest access relative to existing conditions. Therefore, no measurable effects to quality of life and community resilience would occur due to roads management under the B alternative.

## Recommended Wilderness Areas

The B alternative would recommend an additional 220,330 acres of wilderness, which represents approximately 20 percent of the Colville National Forest. The National Visitor Use Monitoring survey estimates that less than one percent of visits to the forest are to a designated wilderness area (USFS 2012a). None of the survey respondents reported overcrowding in designated wilderness during their visit. These findings suggest that current designated wilderness is adequate to satisfy recreational demand for wilderness.

The social value of designated wilderness is not limited to recreation. Wilderness designation may provide amenity values to nearby residents and landowners, support ecosystem service provision (e.g., clean water and carbon sequestration), and offer opportunities for research and environmental education. Designated wilderness may protect “non-use” values. Non-use values arise not from the consumption of goods or services provided by wilderness areas, but from the value of knowing it exists or preserving the option to visit in the future. Among all the considered alternatives, the B alternative would do the most to support social values related to designated wilderness among all considered alternatives.

## Environmental Justice

The largest minority group in all three counties of the Colville National Forest planning area is Native Americans. The Tribal and Treaty Resources report describes potential consequences to Native American populations in the vicinity of the Colville National Forest. Similar to the no-action alternative, the B alternative would be less likely to provide culturally significant foods, due to reduced forest resilience to disease and insects. In addition, the B alternative would decrease motorized access relative to current conditions due to increased recommended wilderness, which may particularly affect the ability of elders to access cultural sites, hunting and fishing grounds, and gathering areas.

Communities in proximity to the Colville National Forest have higher rates of poverty than the State and the Nation. Therefore, actions that adversely affect employment, income, or the cost of participating in activities on the forest may disproportionately affect low-income individuals. The B alternative is not expected to change employment or income relative to current conditions. However, the increase in recommended wilderness may increase the cost of accessing the forest, which may disproportionately affect low-income individuals.

## Cumulative Effects

Lower forest resilience may interact with residential development on private lands adjacent to the Colville National Forest to increase risks to private property and human health from wildfire. Additionally, disturbances on adjacent Federal lands, such as disease and insects, may exacerbate threats to the provision of ecosystem services, including culturally significant foods. The cumulative effect of disturbances across jurisdictions may affect community resilience and well-being, as the availability of substitute opportunities diminishes.

The expansion of resource protections under the B alternative—particularly reduced backcountry motorized recreation opportunities and increased recommended wilderness acreage—may offset social

23723 concerns about the loss of forest lands elsewhere in the three-county area, particularly related to the  
23724 conversion of private forest land for residential development.

## 23725 **Monitoring Recommendations**

23726 The monitoring recommendations are consistent with those identified for the no-action alternative.

## 23727 **Alternative O**

23728 This alternative comes from a series of public, collaborative meetings run by the Forest Service that  
23729 focused on motorized recreation, wilderness recommendations, and vegetation management and reflects  
23730 areas of general agreement among participants in those meetings. The Forest Service fully developed this  
23731 alternative using the proposed action to fill in the gaps not addressed in the collaborative process. The O  
23732 alternative emphasizes summer and winter motorized and non-motorized opportunities in a backcountry,  
23733 unroaded setting and minimizes recommended wilderness.

23734 The O alternative is less likely to protect old forests and their associated social values than the proposed  
23735 action. As a result, the flow of ecosystem services to adjacent communities may decrease while the risk of  
23736 wildfire to private property and human health would increase. Lower forest resilience may decrease the  
23737 production of culturally important foods, which may affect tribal interests and well-being. Access,  
23738 motorized recreation opportunities, and recommended wilderness would not meaningfully change relative  
23739 to current conditions. Therefore, social values related to these resources and uses would not be affected.

## 23740 **Old Forest Management and Timber Production**

23741 The O alternative would place 34 percent of the forest in a Restoration Zone, which would focus on  
23742 protecting old forest and enhancing ecological integrity. Management actions in this area would promote  
23743 social values related to ecological health and the provision of ecosystem services, such as clean water and  
23744 wildlife habitat. However, increased stand density may contribute to the spread of insects, fire, and tree  
23745 mortality, which may compromise some of the social values related to old forests. Fire adjacent to  
23746 communities may adversely affect private property and human health. Under the O alternative, 35 percent  
23747 of the Colville National Forest would be within the historic range. This alternative lowers the risk of  
23748 uncharacteristic wildfire compared to the no-action, proposed action, P, and R alternatives. Reduced  
23749 wildfire risk promotes social values related to health and safety, the protection of private property, and  
23750 preservation of aesthetic quality.

23751 Thirty-nine percent of the forest would be in a Responsible Management Area, which would emphasis a  
23752 stable flow of timber to support community employment in the forest products industry. The O alternative  
23753 would lead to the harvest of approximately 37 million board feet of timber annually. This is similar to the  
23754 B alternative. The economic contribution of timber production from the Colville National Forest is  
23755 described in the economics specialist report.

23756 The O alternative would maintain the Eastside Screen direction, which prevents the harvest of large  
23757 diameter trees. This direction would protect old growth-dependent species habitat and promote both use  
23758 (e.g., recreation and wildlife viewing) and non-use (e.g., knowing that it exists) values associated with the  
23759 forest. However, the Eastside Screens reduce the ability to maintain or enhance late forest structure on the  
23760 Colville National Forest if it is not present within the reserve. In contrast, the proposed action alternative  
23761 adopts a landscape approach to protect late forest structure. Some individuals and groups prefer the  
23762 Eastside Screen direction due to a desire to prevent the harvesting of large diameter trees. The values of  
23763 these individuals and groups are reflected in the O alternative.



23764 Under the O alternative, the quantity of firewood harvested from the Colville National Forest annually  
23765 would be similar to current conditions. Firewood would continue to be an important source of home  
23766 heating in the planning area. No changes to quality of life or household expenditures related to home  
23767 heating and firewood are expected as a result of this alternative.

#### 23768 Motorized Recreation Trails

23769 The O alternative would increase backcountry motorized opportunities from approximately 1 percent of  
23770 the forest to 5 percent of the forest. The effects would be the same as described for the proposed action  
23771 and P alternatives.

23772 Across the forest, the O alternative would keep open the most acres to winter motorized recreation among  
23773 the action alternatives (approximately 685,500 acres). However, fewer acres would be open to winter  
23774 motorized use compared to the no-action alternative. Similarly, the O alternative would also keep open  
23775 the most acres to summer motorized recreation among the action alternatives (approximately  
23776 874,000 acres). This is a decrease compared to the no-action alternative.

23777 The O alternative would only slightly increase recommended wilderness, which would maintain the  
23778 potential for future motorized access. On balance, the O alternative would maintain quality of life for  
23779 motorized recreation users at existing conditions. Among the action alternatives the O alternative is likely  
23780 to be favored by motorized recreation users.

#### 23781 Access

23782 The O alternative would cap existing levels of total miles of Forest Service System roads at the current  
23783 level. Therefore, this alternative would require that existing roads be decommissioned if new roads are  
23784 added. This action is not expected to reduce forest access relative to existing conditions. Therefore, no  
23785 measurable effects to quality of life and community resilience would occur due to roads management  
23786 under the O alternative.

#### 23787 Recommended Wilderness Areas

23788 The O alternative would recommend an additional 15,950 acres of wilderness, which represents  
23789 approximately 1 percent of the Colville National Forest. The National Visitor Use Monitoring survey  
23790 estimates that less than one percent of visits to the forest are to a designated wilderness area (USFS  
23791 2012a). None of the survey respondents reported overcrowding in designated wilderness during their  
23792 visit. These findings suggest that current designated wilderness is adequate to satisfy recreational demand  
23793 for wilderness.

23794 The social value of designated wilderness is not limited to recreation. Wilderness designation may  
23795 provide amenity values to nearby residents and landowners, support ecosystem service provision (e.g.,  
23796 clean water and carbon sequestration), and offer opportunities for research and environmental education.  
23797 Designated wilderness may protect “non-use” values. Non-use values arise not from the consumption of  
23798 goods or services provided by wilderness areas, but from the value of knowing it exists or preserving the  
23799 option to visit in the future. Among the action alternatives, the O alternative would do the least to support  
23800 social values related to designated wilderness.

#### 23801 Environmental Justice

23802 The largest minority group in all three counties of the Colville National Forest planning area is Native  
23803 Americans. The Tribal and Treaty Resources report describes potential consequences to Native American  
23804 populations in the vicinity of the Colville National Forest. Similar to the no-action alternative, the O  
23805 alternative would be less likely to provide culturally significant foods, due to reduced forest resilience to

23806 disease and insects. The O alternative would not meaningfully affect motorized access relative to current  
23807 conditions, which is important for elders to access cultural sites, hunting and fishing grounds, and  
23808 gathering areas.

23809 Communities in proximity to the Colville National Forest have higher rates of poverty than the state and  
23810 the nation. Therefore, actions that adversely affect employment, income, or the cost of participating in  
23811 activities on the forest may disproportionately affect low-income individuals. The O alternative is not  
23812 expected to change employment, income, or the cost of accessing the forest relative to current conditions.

### 23813 Cumulative Effects

23814 Lower forest resilience may interact with residential development on private lands adjacent to the Colville  
23815 National Forest to increase risks to private property and human health from wildfire. Additionally,  
23816 disturbances on adjacent Federal lands, such as disease and insects, may exacerbate threats to the  
23817 provision of ecosystem services, including culturally significant foods. The cumulative effect of  
23818 disturbances across jurisdictions may affect community resilience and well-being, as the availability of  
23819 substitute opportunities diminishes.

23820 Disturbances on adjacent Federal lands, such as disease and insects, may affect the health of the Colville  
23821 National Forest. For example, invasive vegetation on adjacent lands may spread to the Colville National  
23822 Forest. However, other Federal actions to improve forest resilience would support the provision of  
23823 ecosystem services, including culturally significant foods on both the Colville National Forest and  
23824 adjacent Federal lands. The cumulative effect of disturbances across jurisdictions may affect community  
23825 resilience and well-being, as the availability of substitute opportunities changes.

### 23826 Monitoring Recommendations

23827 The monitoring recommendations are consistent with those identified for the no-action alternative.

### 23828 Relationship of Short-term Uses and Long-term Productivity

23829 The Colville National Forest is used for both personal and commercial benefit. Individuals recreate,  
23830 collect firewood, and engage in traditional cultural practices on the forest. Firms use the forest for  
23831 commercial timber harvesting, rights-of-way, grazing, and mineral extraction. Short-term management  
23832 actions, particularly forest treatments, may temporarily limit access for the use and enjoyment of these  
23833 forest resources. Conducting prescribed burns and mechanical treatments have the potential to restore the  
23834 landscape and reduce the potential for permanent adverse effects from high intensity, high severity fires.  
23835 In the long-term, forest resilience would secure opportunities for enjoyment of the multiple uses of the  
23836 Colville National Forest that contribute to social well-being.

### 23837 Unavoidable Adverse Impacts

23838 The land management plan provides a programmatic framework that guides site-specific actions but does  
23839 not authorize, fund, or carryout any project or activity. Before any proposed actions (not limited to  
23840 ground-disturbing actions) take place, they must be authorized in a subsequent site-specific environmental  
23841 analysis. Therefore, none of the alternatives cause unavoidable adverse impacts. Mechanisms are in place  
23842 to monitor and use adaptive management principles in order to help alleviate any unanticipated impacts  
23843 that need to be addressed singularly or cumulatively.

### 23844 Irreversible and Irretrievable Commitment of Resources

23845 The land management plan provides a programmatic framework that guides site-specific actions but does  
23846 not authorize, fund, or carryout any project or activity. Because the land management plan does not

23847 authorize or mandate any site-specific project or activity (not limited to ground-disturbing actions), none  
23848 of the alternatives cause an irreversible or irretrievable commitment of resources

## 23849 **Cumulative Effects**

### 23850 **Past, Present, and Foreseeable Activities Relevant to Cumulative Effects Analysis**

23851 The cumulative effects analysis considers actions on the Confederated Tribes of the Colville Reservation,  
23852 Kalispel Tribe Reservation lands, lands administered by the Okanogan-Wenatchee and Idaho Panhandle  
23853 National Forests; other Federal and state land; and lands of other ownerships both within and adjacent to  
23854 the Colville National Forest boundaries.

23855 Management of adjacent Federal lands may affect social values, including diverse recreation  
23856 opportunities, community economic stability, public land access, provision of ecosystem services, and fire  
23857 risk in the wildland-urban interface.

23858 Increased opportunities to use and enjoy adjacent Federal lands—e.g., through the development of  
23859 recreation opportunities or increased opportunities to engage in commodity development—may substitute  
23860 for such activities on the Colville National Forest. In contrast, fewer opportunities to use and enjoy  
23861 adjacent Federal lands could increase the public’s desire for these opportunities on the Colville National  
23862 Forest.

23863 Private and municipal decisions may affect the development and use of adjacent private lands. Private  
23864 decisions related to development in the wildland-urban interface may increase the likelihood that wildfire  
23865 would adversely affect private property and human health. Private development near the forest may also  
23866 affect the social acceptability of smoke emissions resulting from prescribed fire. Decreased acceptance of  
23867 prescribed fire would increase the difficulty and cost of restoring the forest to desired conditions.

23868 Population growth in communities adjacent to the forest may affect both demand for and supply of  
23869 ecosystem services. For example, the conversion of private land from forest to residential development  
23870 may affect the provision of water to downstream communities while population growth increases the  
23871 demand for water and other ecosystem services. Forest management actions are unlikely to measurably  
23872 affect demographic change, but the consequences of management actions would be influenced by  
23873 demographic change.

### 23874 **Summary**

23875 In consideration of all past, present, and foreseeable actions, no social cumulative effects are anticipated.

23876

## Tribal Resources

The United States and federally recognized American Indian tribes have a special and unique government-to-government relationship of one sovereign nation to another. The Federal Government has a trust responsibility (duty) to each tribal government based on the U.S. Constitution, treaties and statutes. The Federal trust duty imposes fiduciary standards on the conduct of executive agencies. Therefore, the Forest Service has certain legal responsibilities to American Indian tribes. These legal responsibilities are clarified in statutes, executive orders, and case law enacted and interpreted for the protection and benefit of federally recognized American Indian tribes. In meeting these responsibilities, the Forest Service must administer their programs in a manner that does not interfere with tribal rights and resources. When American Indian tribes ceded lands to the United States Government, rights and privileges to off-reservation lands (including the lands of the Colville National Forest) were reserved for their tribal members.

Forest managers are required to consult tribes when proposed policies or management actions may affect their interests. The following American Indian tribes and communities are known to have cultural ties with the lands of the Colville National Forest based on current and past consultation: Colville Confederated Tribe, Kalispel Tribe of Indians, and Spokane Tribe of Indians. Each tribe has their own history, traditions, and relationship to the land and other groups. The Forest shares a common boundary of 29 miles with the Colville Confederated Tribe and 14.7 miles with the Kalispel Tribe of Indians. The lands and resources of the Forest have been used and continue to be used by many of the tribes for a variety of traditional cultural and religious activities. Consultations with each tribe can identify the tribe's historic and present day traditional use areas and sacred sites. This section summarizes effects to tribes from the related specialist report (Beat 2015).

## Affected Environment

Fourteen American Indian tribes represented by three tribal governments have cultural ties to lands within the Forest. Forest Service consultations with appropriate members of each tribe can identify the Tribe's historic and present day traditional uses and sacred sites of the area. The lands, resources, and the archaeological sites within the Forests are considered traditionally significant to all affiliated tribes and in some cases certain resources or areas are considered sacred to one or more. These traditional cultural properties may be eligible to the National Register of Historic Places because of their association with cultural practices and beliefs rooted in history and their importance in maintaining the cultural identity of ongoing American Indian communities. Consultations about these uses and sites are governed and/or mandated by the NHPA, as amended in 1992, (U.S.C. 470 et seq.), the American Indian Religious Freedom Act 1978 (42 U.S.C. 1996), the Native American Graves Protection and Repatriation Act of 1990 (25 U.S.C. 3001 et seq.), E.O. 13007, E.O. 13175, Consultation and Coordination with Indian Tribal Governments.

## Colville Confederated Tribes

During the past 6,000 years, the region has been utilized by diverse groups of people for a variety of activities. The project area lies within the traditional use area of the Colville Confederated Tribe. The Colville is a sub-group of the Salishan speaking groups that include the following cultural traditions: Wenatchee, Columbia, Chelan, Methow, Okanogan, Nespelem, Sanpoil, Spokane, Coeur D'Alene, Lakes and Kalispel. Ethnographic accounts indicate that the Colville practiced wintertime deer drives and maintained resident fisheries along the Columbia, Kettle, and San Poil Rivers. In addition to hunting deer and fishing, the Colville harvested camas and other root crops (*Camassia* species) (Holstine 1987).

A presidential executive order established the Colville Indian Reservation in 1872 (Colville Confederated Tribe 2004). The reservation originally extended across the entirety of present day Ferry County. The

Colville Reservation, as established in July 1872, comprised about 2,900,000 acres. Except for certain 80 acre allotments to individual Indian's, the so-called "North Half" of the Reservation was ceded to the United States by an Agreement which was made with the Indians of the Reservation on May 9, 1891. The United States agreed to pay \$1,500,000 for the Lands of the North Half. The Agreement provided that it was to go into effect after its ratification by Congress. However, by the Act of July 1, 1892 (27 Stat.b2), Congress opened the North Half to settlement without ratifying the Agreement and without providing for the payment of the \$1,500,000. Subsequently, by the Act of June 21, 1906 (34 Stat. 525, 377-378), for the purpose of carrying into effect the 1891 Agreement, Congress directed that \$1,500,000 be set aside in the Treasury for the use and benefit of the Indians of the Colville Reservation in full payment for the ceded North Half. Thereafter, pursuant to the Act of June 21, 1906, and by way of ratifying the 1891 Agreement, Congress appropriated \$1,500,000 in five successive installments of \$300,000 each under each of five Acts of Congress, namely Act of March 1, 1907 (34 Stat. 1015, 1050), Act of April 30, 1908 (35 Stat. 70, 96), Act of March 3, 1909 (39 Stat. 781, 8131), Act of April 4, 1910 (36 Stat. 269, 286), Act of March 3, 1911 (36 Stat. 1058, 1075).

### **Kalispel Tribe of Indians**

The Lower Bands of Kalispel typically wintered in the Pend Oreille Basin and were an Interior Salish-speaking population bounded on the south by the Spokane and Coeur d'Alene people; on the north by the Northern Okanogan, Lakes, Colville, and Kootenai; and on the east by the Flathead and Pend Oreille. Many of the languages were mutually intelligible and the communities were conversant in more than one language. The commonalities in language, the practice of marrying outside one's own community, the right of mutual seasonal use of resources in neighboring watersheds, and a high degree of social mobility to gather resources all contributed to creating a porous social matrix that de-emphasized rigid territoriality.

Since 1855, the Lower Kalispels remained in their aboriginal territory and opposed any attempt to remove them. Over the next 50 years the U.S. Government attempted to move them to other reservations; some of the members did move the Flathead Reservation in Montana. However a small group remained and stayed in the valley near Cusick and Usk (Lahren 1998). The Kalispel Indian Reservation was established by President Woodrow Wilson by Executive Order No. 1904 on March 23, 1914. The executive order reserved approximately 4,629 acres for the Kalispel Tribe. The Pend Oreille River forms the western boundary of the reservation.

### **Spokane Tribe of Indians**

The Spokane Tribe was comprised of three bands: the Lower Spokane had a principal settlement near Little Falls, the Middle Spokane settled near Hangman or Latah Creek, and the Upper Spokane settled along the Little Spokane River up from the junction of Hangman Creek (Ross 1998). Each of the bands had the potential to utilize the portion of the area now managed by the Colville National Forest. Generally speaking the portion of the Forest that is near/surrounding Chewelah, across Flowery Trail, and South of the Pend Oreille River were within the traditional use areas of the Spokane Tribe.

In the past the Spokane occupied approximately 3 million acres in northeastern Washington. The Spokane Reservation was created by executive order in January of 1881, by President Hayes. This order moved the Spokane Tribe of Indians from their ancestral homelands to the Spokane Indian Reservation.

### **Tribal Rights**

In addition to laws listed in the Regulatory Framework the following apply specifically to tribal resources. The executive orders that established the three tribal reservations in the area are as follows:

- 23965 • Confederated Tribes of the Colville Reservation: Executive Order of 1872; North-Half Agreement
- 23966 of 1891 (27 Stat. 62)
- 23967 • Kalispel Tribe: Executive Order Number 1904 (1914)
- 23968 • Spokane Tribe of Indians: Executive Order of 1881

## 23969 **Environmental Consequences**

23970 The land management plan provides a programmatic framework that guides site-specific actions but does  
23971 not authorize, fund, or carryout any project or activity. Because the land management plan does not  
23972 authorize or mandate any site-specific projects or activities (including ground-disturbing actions) there  
23973 can be no direct effects. However, there may be implications, or longer term environmental consequences,  
23974 of managing the forests under this programmatic framework.

23975 Under the provisions of the National Historic Preservation Act (NHPA 1966, as amended; 16 U.S.C.  
23976 §470), adverse effects to cultural resources include a variety of criteria affecting the potential eligibility of  
23977 cultural resources for inclusion on the National Register of Historic Places (36 CFR §800.9b).  
23978 Specifically, effects may be deemed adverse according to the following (36 CFR §800.5[1]):

23979 *An adverse effect is found when an undertaking may alter, directly or indirectly, any of the*  
23980 *characteristics of a historic property that qualify the property for inclusion in the National*  
23981 *Register in a manner that would diminish the integrity of the property's location, design,*  
23982 *setting, materials, workmanship, feeling, or association. Consideration shall be given to all*  
23983 *qualifying characteristics of a historic property, including those that may have been identified*  
23984 *subsequent to the original evaluation of the property's eligibility for the National Register.*  
23985 *Adverse effects may include reasonably foreseeable effects caused by the undertaking that*  
23986 *may occur later in time, be farther removed in distance or be cumulative.*

23987 Tribal consultation for specific actions would be conducted prior to approving site-specific projects in  
23988 compliance with Federal law and Forest Service policy. Prior to the forests making a decision on a site-  
23989 specific action that is subject to NHPA, the forests would consult the tribes to identify TCPs and sacred  
23990 sites, evaluate TCPs for the NRHP and analyze the effects of the proposed use or activity in compliance  
23991 with the programmatic agreement and/or the Memorandum of Understanding with the Tribe/s. Following  
23992 the identification and recording of TCPs, mitigation measures appropriate to the proposed undertaking  
23993 would be implemented. Measures would be determined through consultation. For example, they might  
23994 include avoidance by redesigning the project boundaries, or changing the time/season of when the project  
23995 is implemented. In cases where specific activities would constitute an adverse effect and avoidance could  
23996 not be accomplished, the adverse effects would be resolved in accordance with 36 CFR 800.

23997 Some Sacred Sites may not meet the definition and criteria for a TCP and would not be subject to the  
23998 NHPA. Executive Order 13007 states that the Federal Government should avoid adversely affecting the  
23999 physical integrity of Sacred Sites. Tribal consultation for specific actions would be conducted prior to  
24000 approving site-specific projects. Consultation with the appropriate Tribe/s could determine if the proposed  
24001 action would affect the physical integrity of the Sacred Site. The physical integrity of a Sacred Site can be  
24002 adversely affected by non-ground-disturbing activities, such as but not limited to using treated sewage  
24003 water on the Sacred Site for making snow or irrigation; using the location for touch and go landings of  
24004 aircraft; pumping ground water from a different location that affects the flow and water quality of sacred  
24005 springs; mining or drilling underneath the Sacred Site; building facilities and/or permitting land use  
24006 activities that change the visual, vegetative, and sound qualities of an area which are attributes of the  
24007 Sacred Site. At times, the only mitigation measure to not adversely affect a Sacred Site is avoidance.  
24008 Other measures may be identified through consultation with the affected Tribe/s.

AIRFA provides for the protection and preservation of the inherent rights of American Indians' freedom to believe, express, and exercise the traditional religions of the American Indian, Eskimo, Aleut, and Native Hawaiians, including but not limited to access to sites, and use, and the freedom to worship through ceremonials and traditional rites. Some actions may not affect the access but may temporarily and/or permanently alter or destroy the use of a site or religious ceremony by impacting the physical integrity of the location, setting or resources, and/or defiling the primary attributes that make the location a holy place. Certain resources or ceremonies may only be collected and/or conducted on a specific location by specific individuals at a specific time. Activities that are approved that limit or change the use and access of traditionally used resources or TCP/Sacred Sites may have permanent adverse effects by altering or removing a specific traditionally used resource, or impacts the process and/or continuation of the ceremonial rite.

The Federal trust duty requires the Forest Service to administer their programs in a manner that does not interfere with tribal rights and resources. Actions that may affect tribal rights and resources include but are not limited to special use permits that allow pumping or diverting water resources, vegetation management treatments that could potentially reduce the risk of wildfires crossing jurisdictions or improve the quality of wildlife habitat along reservation boundaries, grazing and range improvements that prevent trespass issues, and transportation management that provides necessary access and discourages illegal access to reservation lands.

## Methodology and Analysis Process

The analysis includes a review of the current conditions, alternatives and an assessment of the potential impacts each alternative could have on Tribal access and use of the forest. The American Indian Rights and Interests area of potential effect includes the lands and resources of the Forest and the potential effect to Tribal resources and/or rights within lands adjacent to the forest. Limited information exists on Traditional Cultural Properties (TCPs) and Sacred Sites on the Forest. An ethnographic overview of the Forest has not been conducted. The existing condition was determined by reviewing the National Register of Historic Places, a review of the forest's heritage site and inventory files, cultural resource management overviews, ethnographic inventory overviews, articles, books, and the heritage Geographic Information System (GIS) database, and prior Tribal responses from consultation.

The American Indian Religious Freedom Act declares that the policies of the United States shall preserve and protect the American Indian's Freedom to practice their religion. This includes the right to have access to religious sites, to use and retain sacred objects, and to conduct ceremonies and practice traditional rites on the forests. The Religious Freedom Restoration Act (RIFRA) states that the government shall not substantially burden a person's exercise of religion even if the burden results from a rule of general applicability, except when the government demonstrates that application of the burden to the person is in furtherance of a compelling governmental interest. To determine how the alternatives would affect the use and access to religious sites (1) an inventory of the known Traditional Cultural Properties (TCPs), Sacred Sites were identified through known and accessible ethnographic reports, archaeological reports, and tribal consultation responses; and (2) a review of the past and current accommodations to tribes to access and use TCPs, Sacred Sites and resources for ceremonial purposes was completed.

Sacred sites are defined in E.O. 13007 as "any specific, discrete, narrowly delineated location on Federal land that is identified by an Indian tribe, or Indian individual determined to be an appropriately authoritative representative of an Indian religion, as sacred by virtue of its established religious significance to, or ceremonial use by, an Indian religion; provided that the tribe or appropriately authoritative representative of an Indian religion has informed the agency of the existence of such a site." The E.O. directs the Forest Service and other Federal land management agencies, to the extent

24055 practicable, permitted by law, and not clearly inconsistent with essential agency functions: to  
24056 accommodate access to and ceremonial use of Indian sacred sites by Indian religious practitioners; to  
24057 avoid adversely affecting the physical integrity of such sacred sites; and to maintain the confidentiality of  
24058 Sacred Sites where appropriate.

24059 Traditional Cultural Properties (TCP) are defined in National Register Bulletin 38 as properties associated  
24060 “with cultural practices or beliefs of a living community that (a) are rooted in that community’s history,  
24061 and (b) are important in maintaining the continuing cultural identity of the community”: for example  
24062 TCPs might be structures, mountains and other landforms, plant gathering locations, communities or  
24063 other types of properties. These areas are considered historic properties that may be eligible to the  
24064 National Register of Historic Places.

24065 Section 106 of NHPA requires that Federal agencies take into consideration the effects of their  
24066 undertakings on historic properties, which are defined in 36 CFR 800.16(l) as any district, site, building,  
24067 structure, or object that is included in or eligible for inclusion in the National Register of Historic Places  
24068 (NRHP). The “Section 106 review process,” entails five steps: (1) determining whether the proposed  
24069 action is an undertaking that has the potential to affect historic properties); (2) identifying historic  
24070 properties; (3) evaluating the significance of historic properties; (4) assessing effects; and (5) consulting  
24071 with interested parties (including Native People), the State Historic Preservation Officer (SHPO), and the  
24072 Advisory Council on Historic Preservation (ACHP). Section 110 (Federal Agencies’ Responsibility to  
24073 Preserve and Use Historic Properties) of the NHPA provides direction to Federal agencies to establish  
24074 programs and activities to identify and nominate historic properties to the NRHP and to consult with  
24075 tribes. The Pacific Northwest Region has a programmatic agreement with the ACHP and Washington  
24076 SHPO that stipulates the Forest Service’s responsibilities for complying with NHPA.

24077 Under Section 106 regulations an adverse effect is found when an undertaking may alter, directly or  
24078 indirectly, any of the characteristics of a historic property that qualify the property for inclusion in the  
24079 National Register in a manner that would diminish the integrity of the property’s location, design, setting,  
24080 materials, workmanship, feeling, or association. Consideration shall be given to all qualifying  
24081 characteristics of a historic property, including those that may have been identified subsequent to the  
24082 original evaluation of the property’s eligibility for the National Register. Adverse effects may include  
24083 reasonably foreseeable effects caused by the undertaking that may occur later in time, be farther removed  
24084 in distance or be cumulative. Specific examples of adverse effects cited in statute include (36 CFR 800.5):

- 24085       • Physical destruction of or damage to all or part of the property.
- 24086       • Removal of the property from its historic location.
- 24087       • Change of the character of the property’s use or of physical features within the property’s setting  
24088       that contribute to its historic significance.
- 24089       • Introduction of visual, atmospheric or audible elements that diminish the integrity of the  
24090       property’s significant historic features.

24091 A review of tribal rights (hunting, fishing and gathering rights) was conducted to determine how the  
24092 alternatives would potentially affect tribal rights. There are no known reserved hunting and gathering  
24093 rights stated in treaties that involve lands of the Forest; however executive order tribes may have won  
24094 certain rights and privileges under State law and regulation (*Colville Confederated Tribes—Antoine v.*  
24095 *Washington*, 420 U.S. 1994 [1975]). For members of the Kalispel Tribe “Waterfowl bag limits and  
24096 hunting seasons on the Kalispel Indian Reservation are determined annually to concur with limits and  
24097 seasons set forth through the U.S. Fish and Wildlife Service (USFWS) Migratory Bird Program (Kalispel  
24098 Tribes of Indians Hunting and Fishing Regulations 2014).” The Kalispel tribe regulates and enforcement



24099 their hunting and fishing rights through their own tribal law and order code. The Kalispel Tribe also have  
24100 Memoranda of Understandings with the Washington Department of Wildlife concerning fisheries  
24101 resources (WDFW 1993; WDFW 1994). The Forest Service is not party to these understandings as they  
24102 effect only Kalispel reserved lands.

24103 Consultation letters were sent to the three Tribal Governments (Colville Confederated Tribes, Kalispel  
24104 Tribe of Indians, and Spokane Tribe of Indians) regarding the plan revision.

## 24105 Assumptions

24106 In the analysis for this resource, the following assumptions have been made:

- 24107 • The land management plan provides a programmatic framework for future site-specific actions.
- 24108 • The plan decisions (desired conditions, objectives, standards, guidelines, special areas, suitability,  
24109 monitoring) would be followed when planning or implementing site-specific projects and  
24110 activities.
- 24111 • Analysis and impacts to American Indian Rights and Interests from site-specific actions would be  
24112 addressed at the time site-specific decisions are made.
- 24113 • Members of American Indian tribes would continue to access, use, and/or conduct religious  
24114 pilgrimages and ceremonies at known TCPs and sacred sites; and collect forest and botanical  
24115 resources.
- 24116 • Generally the lands and resources of the Colville National Forest used by American Indian tribes  
24117 for traditional cultural purposes and traditional use are for personal and community use.
- 24118 • Law, policy, and regulations would be followed when planning or implementing site-specific  
24119 projects and activities.
- 24120 • The agency has the capacity (e.g., funding, personnel, other resources) to accomplish the  
24121 minimum planned objectives.
- 24122 • Burning could occur across all NFS lands.
- 24123 • Unplanned ignitions are analyzed at the time of the fire's start and documented in the Wildland  
24124 Fire Decision Support System (WFDSS). Management response to a wildfire is based on  
24125 objectives appropriate to conditions of the fire, fuels, weather, and topography to accomplish  
24126 specific objectives for the area where the fire is burning. Affects to cultural resources are  
24127 considered when determining the objectives and management response to a wildfire
- 24128 • The kinds of resource management activities allowed under the prescriptions are reasonably  
24129 foreseeable future actions to achieve the goals and objectives of the forest plan. The specific  
24130 location, design and the extent of such activities are generally not known. The effects analysis is  
24131 intended to be useful for comparing and evaluating alternatives on a forestwide basis. It is not  
24132 intended to be applied directly to specific locations on the forests.
- 24133 • Prior to making a project-level decision that is subject to National Historic Preservation Act  
24134 (NHPA), the forests would consult tribes to identify TCPs and sacred sites, evaluate TCPs for the  
24135 National Register of Historic Places (NRHP), and analyze the effects of the proposed use or  
24136 activity in compliance with the *Programmatic Agreement Among the United States Department of  
24137 Agriculture, Forest Service, Pacific Northwest Region (Region 6), the Advisory Council on  
24138 Historic Preservation, and the Washington State Historic Preservation Officer Regarding  
24139 Cultural Resources Management on National Forests in the State of Washington* (Forest Service  
24140 1997), and/or memorandum of understandings with tribes. Following the identification and

recording of TCPs, mitigation measures appropriate to the proposed undertaking would be implemented. Measures would be determined through consultation and might include avoidance by redesigning the project boundaries and/or changing the time/season of when the project is implemented. In cases where specific activities would constitute an adverse effect and avoidance cannot be accomplished, the adverse effects would be resolved in accordance with 36 CFR 800.

## Revision Topics Addressed in this Analysis

American Indian Rights and Interests may be affected by the issues addressed in the revision topics: maintenance and improvement of ecosystems and community forest interaction. This analysis would address two issues identified by the tribes that are related to AIRFA, RIFRA, E.O 13007 and the Federal trust responsibility.

The three tribes affiliated with the Colville National Forest have identified three main issues regarding forest land management in consultation and collaboration efforts conducted by the Forest (various Tribal Communications 2014):

- The effects of management practices on resources used in traditional activities

Indicator: Qualitative discussion of potential effects to TCPs, Sacred Sites, and tribal rights from ecosystem restoration treatments, recreation, and special uses (Meeting Notes from November 4, 2014 and November 12, 2014).

- The accommodation of traditional use activities such as visiting offering places, medicinal plant gathering, visitation of sites identified in oral histories, pilgrimages, and other such cultural activities (Meeting Notes from November 4, 2014 and November 12, 2014)

Indicator: Qualitative assessment of the potential effects on the access and use of those resources for traditional and religious purposes.

- The effects of vegetation management on fire behavior and its potential to effect tribal lands adjacent to the forest (refer to the following: *Colville Confederated Tribes Integrated Resource Management Plan*, June 3, 2014, Congressional Testimony of DeSautel April 10, 2014, Colville Confederated Tribes Comment letter dated April 13, 2009, and Meeting Notes from January 23, 2004).

Indicator: Assessment and monitoring of future ecosystem restoration treatments.

## Effects Common to All Alternatives

The Forest consults with three different tribal governments that have a cultural affiliation to the area. At present, tribes have not identified concerns or issues that the proposed plan and alternatives would result in adverse impacts to known and unidentified TCPs and Sacred Sites or the use of those locations. The tribes have expressed interest on the affects to wildlife (caribou and native fish species), the effects of vegetation management (forest health and wildfire spread to adjacent tribal lands), and the need to prevent additional adverse impacts from activities to TCPs and Sacred Sites. It should be noted that some tribes may not reveal specific locations of traditional use or Sacred Sites to non-practitioners because of cultural restrictions and/or religious beliefs unless that location is at risk of being adversely impacted by project activities. Government to government consultation would continue between the Forest and the tribes. If tribal consultation results in identification of additional, currently unidentified, traditional uses and traditional cultural properties, impacts to those areas would be considered during project-specific environmental assessments.

## Traditional Cultural Properties and Sacred Sites

The 1988 forest plan (alternative A) has not been amended to reflect the 1992 requirements and amendments to the NHPA. The 1992 amendment Section 101 (d)(6) states that properties of traditional religious and cultural importance to an Indian tribe or native Hawaiian organization may be determined eligible for inclusion on the National Register. It also states a Federal agency shall consult with any Indian tribe that attaches religious and cultural significance to these properties. The forest plan also does not address the requirements of the Native American Graves Protection and Repatriation Act of 1990 (NAGPRA), Executive Order 13007 Indian Sacred Sites and Executive Order 13175 Consultation and Coordination with Indian Tribal Governments. The focus of management and guidelines for forest resources within the 1988 plan were developed prior to the passage or issuance of these statutes which lead to more impacts to TCPs. Emphasis was on use of timber and multiple use activities that incorporate the location of TCPs and Sacred Sites that may not be compatible with those uses. In the action alternatives the proposed plan would incorporate the passage of these statutes and issuance of executive orders providing for increased consideration and management to avoid or minimize the impacts to TCPs and Sacred Sites, to allow access, and preserve their cultural value and use.

## Tribal Interests

The Forest's proposed treatments in all of the alternatives provide for sustainability and improvement of wildlife habitat. The alternatives are not expected to reduce or limit the long-term availability and use of traditionally used wildlife. The tribes have not identified any concerns that the proposed treatments would affect their access and use of traditionally used forest products and minerals. Road access and access in general are vitally important for tribal members, particularly elder tribal members, to continue to utilize culturally significant resources, Traditional Cultural Properties, and Sacred Sites.

## Relationship of Short-term Uses and Long-term Productivity

Traditional cultural areas used for hunting wildlife and collecting forest resources could be affected by the temporary closure of areas from wildland fires and treatments. Many of the traditionally used plants respond to fire by increasing productivity. The alternatives allow approximately the same number of acres to be treated by fire, and fuels treatments would potentially increase the long term productivity of traditionally used forest resources and availability of those resources across the landscape. Access to visiting TCPs and Sacred Sites could be affected in the short term during implementation of prescribe burn treatments or during management of wild fires. Conducting prescribed burns have the potential to restore the natural and cultural landscape, and the natural fire regime, reducing the potential for permanent adverse effects from high intensity, high severity fires. Mechanized treatments have the similar benefits to TCPs by reducing the potential for permanent adverse effects from fire, but these treatments have the highest potential for long term indirect effects from erosion caused from intensive ground disturbance near sites. Also, slash from mechanized treatments is often piled and burned resulting in more locations with hydrophobic soils, thus increasing erosion to sites if the piles were located near TCPs.

## Unavoidable Adverse Impacts

The land management plan provides a programmatic framework that guides site-specific actions but does not authorize, fund, or carry out any project or activity. Before actions take place, they must be authorized in a subsequent site-specific environmental analysis. Therefore none of the alternatives cause unavoidable adverse impacts. Mechanisms are in place to monitor and use adaptive management principles in order to help alleviate any unanticipated impacts that need to be addressed singularly or cumulatively.

24224 **Irreversible and Irretrievable Commitment of Resources**

24225 The land management plan provides a programmatic framework that guides site-specific actions but does  
24226 not authorize, fund, or carryout any project or activity. Because the land management plan does not  
24227 authorize or mandate any site-specific project or activity (including ground-disturbing actions), none of  
24228 the alternatives cause an irreversible or irretrievable commitment of resources.

24229 **Adaptive Management**

24230 All alternatives assume the use of adaptive management principles. Forest Service decisions are made as  
24231 part of an on-going process, including planning, implementing projects, and monitoring and evaluation.  
24232 The land management plan identifies a monitoring program. Monitoring the results of actions would  
24233 provide a flow of information that may indicate the need to change a course of action or the land  
24234 management plan. Scientific findings and the needs of society may also indicate the need to adapt  
24235 resource management to new information.

24236 **Consistency with Law, Regulation, and Policy**

24237 All alternatives are designed to guide Colville National Forests' management activities in meeting Federal  
24238 law, regulations, and policy.

24239 **Other Planning Efforts**

24240 There are no conflicts between the alternatives and the adjacent Tribal land use plans.

24241 **Cumulative Environmental Consequences**

24242 American Indian rights and interests may be affected by the issues addressed in the revisions which  
24243 increase maintenance and improvement of ecosystems and community forest interaction. Current and  
24244 previous Forest Service management activities, public resource procurement and recreational use and  
24245 natural processes have impacted TCPs and Sacred Sites. The analysis area consists of lands that include  
24246 American Indian TCPs and Sacred Sites within the state of Washington associated with tribes culturally  
24247 affiliated with the lands of the Forest. Tribes view Sacred Sites and TCPs that are part of their traditions  
24248 as interconnected places/features of the religious and traditional landscape. Effects to these places or  
24249 features may directly or indirectly affect the access and use by the tribes to conduct ceremonial and/or  
24250 traditional practices of other Sacred Sites or TCPs that are part of their traditions. There are several  
24251 known activities, projects or planned projects and/or plans located on lands that have or would adversely  
24252 affect TCPs and Sacred Sites.

## Chapter 4. Consultation and Coordination

### Preparers and Contributors

The following individuals and Forest Service staff groups contributed to the development of this environmental impact statement. This list of preparers is limited to those people who were members of the interdisciplinary team working on these documents. Their preparation could not have been completed without the support and assistance of employees of the Colville and Okanogan-Wenatchee National Forests and our colleagues in the regional office and Pacific Northwest Research Station. We also recognize the forest leadership teams as providing guidance during this process.

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#### Official Responsible for Preparing the DEIS

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<b>Name</b>	<b>Contribution</b>	<b>Education and Experience</b>
Ben Curtis	Fire, Fuels Management	18 years' experience with USDA Forest Service (includes 4 years as fuels AFMO and 3 years suppression AFMO).
Jonathan Day	Silviculture, Timber Management	M.S. Physical Geography, University of Oregon; National Advanced Silviculture Program (Continuing Education). Forest Service certified silviculturist with 12 years of experience with natural resource management in the public sector.
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<b>Name</b>	<b>Contribution</b>	<b>Education and Experience</b>
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**Support to Interdisciplinary Team**

<b>Name</b>	<b>Contribution</b>	<b>Education and Experience</b>
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Karen Honeycutt	Fisheries	B.S. degree in Forestry and Wildlife with an emphasis in Fisheries Science. Fish Biologist for 26 years with the Forest Service.
Mark Loewen	Silviculturist	B.S., Forest Management, Oregon State University. Continuing Education in Forest Ecology and Silviculture: University of Montana, Univ. of Idaho, Washington State University. Forest Service Certified Silviculturist; 40 years' experience in western forest, shrub, and woodland ecosystems
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Name	Contribution	Education and Experience
Richard Phillips	Economics	B.S. Forest Management, Colorado State University, Graduate Studies; Colorado State University; 28 years of experience as an economist for the Forest Service providing direction and social and economic analysis in support of forest planning, projects and programs
Marcy Rumelhart	Writer-Editor	A.A. Forest Technology, Centralia College; 28 years' experience with the Forest Service in fire, reforestation, planning, and writing and editing National Environmental Policy documents.

24268 **Consultation and Coordination**

24269 The Forest Service consulted the following tribes, Federal, State and local agencies, groups, and  
24270 individuals during the development of this environmental impact statement.

24271 **Tribes**

24272 The following three tribes were consulted: Kalispel Tribe, Confederated Tribes of the Colville  
24273 Reservation and Spokane Tribe of Indians.

24274 **Federal, State and Local Agencies**

24275 Numerous Federal, State and local agencies were consulted in the development of the proposed plan and  
24276 this DEIS. Complete mailing lists for the scoping periods are available in the “Plan Set of Documents.”  
24277 Some of the agencies consulted include:

24278 U.S. Fish and Wildlife Service

24279 Washington Department of Fish and Wildlife

24280 Ferry County Board of Commissioners

24281 Pend Oreille County Board of Commissioners

24282 Stevens County Board of Commissioners

24283 **Others**

24284 Numerous groups and individuals participated in the process through written comments and by attending  
24285 public meetings. Complete mailing lists are available in the “Plan Set of Documents.”

24286 **List of Agencies, Organizations and Persons to Whom Copies of the DEIS were sent**

24287 Notice of the availability of this DEIS was mailed to the public, forest employees, tribal governments,  
24288 Federal and State agencies, and local governments. These mailing lists can be found in the planning  
24289 record.

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## Acronyms

26141		
26142	ACS	Aquatic Conservation Strategy
26143	AEC	Aquatic Ecological Condition
26144	AIS	Aquatic Invasive Species
26145	AMS	Analysis of the Management Situation
26146	ARCS	Aquatic and Riparian Conservation Strategy
26147	ARS	Aquatic Restoration Strategy
26148	ASQ	Allowable Sale Quantity
26149	ATV	All-terrain Vehicle
26150	AUM	Animal Unit Month
26151	BC	Back Country Non-Motorized
26152	BCM	Backcountry Motorized
26153	BLM	Bureau of Land Management
26154	BMP	Best Management Practice
26155	BMU	Bear Management Unit
26156	CCF	Hundred Cubic Feet
26157	CEQ	Council on Environmental Quality
26158	CER	Comprehensive Evaluation Report
26159	CFR	Code of Federal Regulations
26160	CNF	Colville National Forest
26161	CWA	Clean Water Act
26162	CWPP	Community Wildfire Protection Plan
26163	DEIS	Draft Environmental Impact Statement
26164	DSM	Decision Support Model
26165	EIS	Environmental Impact Statement
26166	EPA	Environmental Protection Agency
26167	ESA	Endangered Species Act
26168	FERC	Federal Energy Regulatory Commission
26169	FR	Federal Register
26170	FRCC	Fire Regime Condition Class
26171	FSH	Forest Service Handbook
26172	FSM	Forest Service Manual
26173	GDE	Groundwater-dependent Ecosystems

26174	GIS	Geographic Information System
26175	HRV	Historic Range of Variability
26176	HUC	Hydrologic Unit Code
26177	ICBEMP	Interior Columbia Basin Ecosystem Management Project
26178	IDT	Interdisciplinary Team
26179	IGBC	Interagency Grizzly Bear Committee
26180	INFISH	Inland Native Fish Strategy
26181	IRA	Inventoried Roadless Area
26182	LCAS	Lynx Conservation Assessment and Strategy
26183	LMP	Land Management Plan
26184	LRMP	Land and Resource Management Plan
26185	LSOF	Late Structure Old Forest
26186	LTA	Landtype Association
26187	LTSYC	Long-term Sustained Yield Capacity
26188	MA	Management Area
26189	MIS	Management Indicator Species
26190	MMBF	Million Board Feet
26191	MOA	Memorandum of Agreement
26192	MOU	Memorandum of Understanding
26193	MUSYA	Multiple Use Sustained Yield Act
26194	MVUM	Motor Vehicle Use Map
26195	NAAQ	National Ambient Air Quality Standard
26196	NEPA	National Environmental Policy Act
26197	NFMA	National Forest Management Act
26198	NFS	National Forest System
26199	NHPA	National Historic Preservation Act
26200	NOA	Notice of Availability
26201	NVUM	National Visitor Use Monitoring
26202	OHV	Off-highway Vehicle
26203	PIBO	PACFISH/INFISH Biological Opinion
26204	PILT	Payment in Lieu of Taxes
26205	PTSQ	Projected Timber Sale Quantity
26206	PUD	Public Utility District
26207	PWA	Potential Wilderness Area

26208	PWSQ	Predicted Wood Sale Quantity
26209	RHCA	Riparian Habitat Conservation Area
26210	RMA	Riparian Management Area
26211	RMO	Riparian Management Objective
26212	RNA	Research Natural Area
26213	ROD	Record of Decision
26214	ROS	Recreation Opportunity Spectrum
26215	RW	Recommended Wilderness
26216	SIA	Special Interest Area
26217	SMS	Scenery Management System
26218	SOC	Species of Concern
26219	SOI	Species of Interest
26220	SPM	Semi-primitive Motorized
26221	SPNM	Semi-primitive Non-Motorized
26222	TE	Threatened or Endangered (species)
26223	TES	Threatened, Endangered & Sensitive (species)
26224	TMDL	Total Maximum Daily Load
26225	U.S.C.	United States Code
26226	USDA	United States Department of Agriculture
26227	USDI	United States Department of Interior
26228	USFS	United States Forest Service
26229	USFWS	United States Fish & Wildlife Service
26230	USGS	United States Geologic Survey
26231	WAC	Washington Administrative Code
26232	WAP	Watershed Action Plan
26233	WCF	Watershed Condition Framework
26234	WDFW	Washington Department of Fish & Wildlife
26235	WDoE	Washington Department of Ecology
26236	WQIP	Water Quality Implementation Plan
26237	WRIA	Water Resources Inventory Areas
26238	WSR	Wild and Scenic River
26239	WUI	Wildland Urban Interface

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## Glossary

TERM	DEFINITION
<b>Active channel</b>	The portion of a stream channel commonly wetted during and above base flows, identified by a break in rooted vegetation or moss growth on rocks along stream margins (Taylor and Love 2003). The active channel is somewhat lower than bankfull and is sometimes called the ordinary high water mark.
<b>Active floodplain</b>	The area bordering a stream that is inundated by flows at a surface elevation defined by two times the maximum bankfull depth measured at the thalweg. (Thalweg is a line drawn to join the lowest points along the entire length of a streambed in its downward slope, defining the deepest channel, thus making the natural direction or profile of a watercourse. The thalweg is almost always the line of fastest flow in any river).
<b>Active restoration</b>	Deliberate activities to influence the processes needed to improve conditions. Investment of human actions of the ecosystem processes and functions. As an example, this might include seeding native grasses and planting native shrubs and trees, or thinning trees to restore fire regimes.
<b>Activity</b>	A measure, course of action, or treatment that is undertaken to directly or indirectly produce, enhance, or maintain a desired condition or objective on a Forest, Grassland, Prairie, or other comparable administrative unit.
<b>Animal unit month (AUM)</b>	The amount of oven-dry forage required by 1 animal unit for a period of 30 days. An animal unit is considered to be 1 mature cow, either dry or with calf up to 6 months in age. (Society for Range Management. 1998. (Society for Range Management 1998)
<b>Aquatic ecological condition</b>	The AEC is a model to evaluate the status of local populations of focal species and their habitat at the HUC12 or sub-watershed scale. The results are then aggregated to produce an ecological sustainability or viability outcome for each focal species at the subbasin (HUC 8) scale. It is described in the Process for Evaluating the Contribution of National Forest System Lands to Aquatic Ecological Sustainability (Reiss et al. 2008).
<b>Aquatic ecosystem</b>	Any body of water and its associated riparian area, and all organisms and non-living components within it functioning as a natural system.
<b>Assessment</b>	An analysis and interpretation of the social, economic, or ecological characteristics of an area using scientific principles to describe existing conditions as they affect sustainability.

TERM	DEFINITION
<b>Biological legacy</b>	Organisms, organic matter and biologically created patterns that persist from the pre-disturbance ecosystem and influence recovery processes in the post-disturbance ecosystem.
<b>Canopy closure</b>	The proportion of the sky hemisphere obscured by vegetation when viewed from a single point (Korhonen et al. 2006).
<b>Canopy cover</b>	The proportion of the forest floor covered by the vertical projection of tree crowns (Korhonen et al. 2006).
<b>Capability</b>	The potential of an area of land to produce resources, supply goods and services, and allow resource uses under an assumed set of management practices and at a given level of management intensity. Capability depends upon current conditions and site conditions such as climate, slope, landform, soils, and geology, as well as the application of management practices, such as silviculture or protection from fire, insects, and disease.
<b>Characteristic fire</b>	When a fire occurs within the time, space, and severity parameters of the natural fire regime of the vegetation group (Hardy, 2005). Also, see uncharacteristic fire.
<b>Class I and II areas (air quality)</b>	Class I areas defined under the Clean Air Act Amendments of 1977 are afforded the highest level of protection from air pollutants in the nation. All other lands in the nation are designated as Class II areas.
<b>Coarse filter/coarse filter management</b>	<p>Land management that addresses the needs of all associated species, communities, environments and ecological processes in a land area (see fine filter management).</p> <p>Coarse filter conservation focuses on assuring adequate representation of ecosystem diversity, and is generally accomplished by comparing the current condition of landscape structure and composition to a set of reference conditions. Management direction then addresses the landscape components that have departed from reference conditions to assure adequate representation across the plan area. A fine-filter approach may be needed if the coarse-filter does not adequately provide ecosystem conditions needed to maintain populations (Samson 2002) (see fine-filter).</p>
<b>Coarse woody debris</b>	Coarse woody debris consists of any woody material greater than three inches in diameter and is derived from tree limbs, boles, roots, and large (greater than 12 inches in diameter) wood fragments and fallen trees in various stages of decay. Provides living spaces for a host of organisms and serves as long-term storage sites for moisture, nutrients, and energy.
<b>Code of Federal Regulations (CFR)</b>	The listing of various regulations pertaining to management and administration of the Colville National Forest.



TERM	DEFINITION
<b>Community (ecological)</b>	A group of organisms living together; any group of interacting organisms.
<b>Connectivity</b>	See <i>habitat connectivity</i> .
<b>Core area/ core habitat</b>	A core area represents the closest approximation of a biologically functioning unit consisting of habitat that could supply all the necessary elements for every life stage (e.g., spawning, rearing, migratory and adult) and include one or more groups of bull trout (USFWS 2014)
<b>Corridor (utility)</b>	See <i>Transportation and utility corridors</i> .
<b>Corridor (wildlife)</b>	Avenues along which wide ranging animals can travel, plants can propagate, genetic interchange can occur, populations can move in response to environmental changes and natural disasters, and threatened species can be replenished from other areas.
<b>Cover</b>	<p>Vegetation used by wildlife for protection from predators, or to ameliorate conditions of weather, or in which to reproduce.</p> <p><b>Hiding cover</b> – vegetation consisting primarily of trees, capable of hiding 90 percent of a standing adult animal from the view of a human at a distance of 200 feet or less.</p> <p><b>Thermal cover</b> – cover used by animals to ameliorate chilling effects of weather, for elk, a stand of coniferous trees 40 feet or taller with an average crown closure of 70 percent or more.</p>
<b>Critical (key) habitat</b>	<p>Specific areas</p> <ul style="list-style-type: none"> <li>• within the geographical area occupied by the species at the time of listing, if they contain physical or biological features essential to conservation, and those features may require special management considerations or protection; and</li> <li>• outside the geographical area occupied by the species if the agency determines that the area itself is essential for conservation</li> <li>• <a href="http://www.nmfs.noaa.gov/pr/species/criticalhabitat.htm">http://www.nmfs.noaa.gov/pr/species/criticalhabitat.htm</a></li> </ul>
<b>Crossing (structure)</b>	That point in a linear feature (i.e., trail, road, stream) where the feature intersects and continues past another feature (i.e., a road crosses over or through a stream). Crossing structures are human-made structures that facilitate the ability of an animal to travel across a road and reduce the likelihood of a collision with a vehicle.
<b>Cultural resources</b>	Such resources as archeological, historical, or architectural sites, structures, places, objects, ideas, and traditions that are identified by field inventory, historical documentation, or other evidence and that are important to specified social or heritage groups or scientific and management endeavors.

TERM	DEFINITION
<b>Cumulative effects</b>	The combined effects of two or more management activities. The effects may be related to the number of individual activities, or to the number of repeated activities on the same piece of ground. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.
<b>Decommission (roads)</b>	Activities that result in restoration of unneeded roads to a more natural state through reestablishment of vegetation and restoration of ecological processes interrupted or adversely affected by the unneeded road (FSM 7734).
<b>Designated Monitoring Area (DMA)</b>	A representative Designated Monitoring Area is a monitoring site in a riparian complex that is representative of a larger area. The DMA should be placed in the most sensitive complex responsive to management influences. (MIM Technical Reference 1737-23, 2011)
<b>Designated route</b>	A National Forest System (NFS) road or an NFS trail on NFS lands that is designated for motor vehicle use pursuant to 36 CFR 212.1 on a motor vehicle use map.
<b>Desired conditions</b>	The social, economic, and ecological attributes toward which management of the land and resources of the plan area are to be directed. Desired conditions are aspirations and are not commitments or final decisions approving projects and activities, and may be achievable only over a long period (36 CFR 219.7).
<b>Desired landscape character</b>	Appearance of the landscape to be retained or created over time, recognizing that a landscape is a dynamic and constantly changing community of plants and animals. Combination of landscape design attributes and opportunities, as well as biological opportunities and constraints. (Landscape Aesthetics-A Handbook for Scenery Management, Agriculture Handbook Number 701, December 1995, USDA Forest Service)
<b>Developed recreation site</b>	Distinctly defined area where facilities are provided for concentrated public use; e.g., campgrounds, picnic areas, boating sites, and ski areas.
<b>Diameter at breast height (d.b.h.)</b>	The diameter of a standing tree at a point 4 feet, 6 inches from ground level.
<b>Dispersed recreation</b>	Outdoor recreation that takes place outside developed recreation sites.

TERM	DEFINITION
<b>District population segment (DPS)</b>	<ul style="list-style-type: none"> <li>The term “DPS” is used by the U.S. Fish and Wildlife Service (USFWS) to refer to regional subgroups of bull trout and is the term used in the Endangered Species Act to describe subunits of species that are eligible for listing, or to describe subgroups of species that could be delisted separately by meeting specific recovery objectives identified in a Species Recovery Plan.</li> </ul>
<b>Disturbance</b>	A discrete event that changes existing plant and wildlife community composition or structure, and interrupts, changes, or resets the ongoing successional sequence.
<b>Disturbance processes</b>	Stresses and agents that influence ecosystem dynamics and processes operating within known resilience parameters. Stresses and agents can include invasive species, fire, changes in climate, weather events (wind, ice), pollution, and timber harvest.
<b>Disturbance regime</b>	Any recurrent disturbance that tends to occur in a forested area. It is often defined in terms of timing, frequency, predictability, and severity. (Puettmann et al. 2009)
<b>Diversity</b>	The distribution and abundance of different plant and animal communities and species within an area.
<b>Ecological conditions</b>	Components of the biological and physical environment that can affect diversity of plant and animal communities and the productive capacity of ecological systems. These components could include the abundance and distribution of aquatic and terrestrial habitats, roads and other structural developments, human uses, and invasive, exotic species. (36 CFR 219.16)
<b>Ecological health (ecosystem health)</b>	The state of an ecosystem in which processes and functions are adequate to maintain diversity of biotic communities commensurate with those initially found there.
<b>Ecological restoration</b>	The process of assisting the recovery of resilience and adaptive capacity of ecosystems that have been degraded, damaged, or destroyed. Restoration focuses on establishing the composition, structure, pattern, and ecological processes necessary to make terrestrial and aquatic ecosystems sustainable, resilient, and healthy under current and future conditions. (FSM 2000 Chapter 2020).
<b>Ecosystem</b>	An interacting system of organisms considered together with their environment; for example, marsh, watershed, and lake ecosystems.
<b>Ecosystem diversity</b>	The variety and relative extent of ecosystem types, including their composition, structure, and processes, within all or a part of an area of analysis. (36 CFR 219.16)

TERM	DEFINITION
<b>Ecosystem health (ecological health)</b>	A condition where the parts and functions of an ecosystem are sustained over time and where the system's capacity for self-repair is maintained, such that goals for uses, values, and services of the ecosystem are met. (www.icbemp.gov )
<b>Ecosystem services</b>	Ecosystem services are the benefits people obtain from ecosystems. For example, healthy ecosystems provide: <ul style="list-style-type: none"> <li>• The stuff of life – food, fresh water, timber, and fiber for clothing.</li> <li>• Protection from extreme weather, floods, fire, and disease.</li> <li>• Regulation of the Earth's climate.</li> <li>• Filtration of wastes and pollutants.</li> <li>• Regeneration of clean air, water, and soil.</li> <li>• Inspiration, recreation and spiritual sustenance, and support for a way of life. (Island Press 2007)</li> </ul>
<b>Edaphic</b>	Relating to, or determined by, conditions of the soil, especially as it relates to biological systems; soil characteristics, such as water content, pH, texture, and nutrient availability that influence the type and quantity of vegetation in an area.
<b>Effect (impact), economic</b>	The change, positive or negative, in economic conditions, including the distribution and stability of employment and income in affected local, regional, and national economies that directly or indirectly results from an activity, project, or program.
<b>Effect (impact), physical, biological</b>	The change, positive or negative, in the physical or biological conditions that directly or indirectly results from an activity, project, or program.
<b>Effect (impact), social</b>	The change, positive or negative, in social and cultural conditions that directly or indirectly results from an activity, project, or program.
<b>Endangered species</b>	Any species of animal or plant that is in danger of extinction throughout all or a significant portion of its range. An endangered species must be designated by the Secretary of Interior as endangered in accordance with the Endangered Species Act of 1973.

TERM	DEFINITION
<b>Evaluation</b>	An appraisal and study of social, economic, and ecological conditions and trends relevant to a unit. The analysis of monitoring data that produces information needed to answer specific monitoring questions. Evaluation may include comparing monitoring results with a predetermined guideline or expected norm that may lead to recommendations for changes in management, a land management plan, or monitoring plan. Evaluations provide an updated compilation of information for use in environmental analysis of future project and activity decisions.
<b>Even-aged management</b>	The application of a combination of actions that results in the creation of stands in which trees of essentially the same age grow together. Managed even-aged forests are characterized by a distribution of stands of varying ages (and, therefore, tree sizes) throughout the forest area. An even-aged stand of trees is one in which there are only small differences in age among the individual trees. Regeneration in a particular stand is obtained during a short period at or near the time that a stand has reached the desired age or size for regeneration and is harvested. Clearcut, shelterwood, or seed tree cutting methods produce even-aged stands.
<b>Fine filter management</b>	Management that focuses on the welfare of a single or only a few species rather than the broader habitat or ecosystem (see coarse filter management). Coarse and fine-filter management approaches are generally complimentary to provide ecological conditions that support ecosystem and species diversity.
<b>Fire intensity</b>	A general term relating to the heat energy released by a fire.
<b>Fire management</b>	Activities required for the protection of burnable wildland values from fire and the use of prescribed fire to meet land management objectives.
<b>Fire regime</b>	Description of the patterns of fire occurrences, frequency, size, severity, and sometimes vegetation and fire effects as well, in a given area or ecosystem. A fire regime is a generalization based on fire histories at individual sites. Fire regimes can often be described as cycles because some parts of the histories usually get repeated, and the repetitions can be counted and measured, such as fire return interval. (NWCG. 2008)
<b>Fire severity</b>	The degree to which a site has been altered or disrupted by fire. A product of fire intensity, fuel consumption, and residence time.
<b>Floodplain</b>	Lowland and relatively flat area adjacent to rivers and streams, formed from river sediments that are subject to recurring flooding.

TERM	DEFINITION
<b>Focal species</b>	<p>Those species whose abundance, distribution, health, and trend over time and space are indicative of the functioning of the larger ecological system (Committee of Scientists. 1999. USDA Forest Service).</p> <p>Focal species serve an umbrella function in terms of encompassing habitats needed for other species, are sensitive to the changes likely to occur in the area, or otherwise serve as an indicator of ecological sustainability. The long-term sustainability of the focal species is assumed to be representative of a group of species with similar ecological requirements and this group is assumed to respond in a similar manner to environmental change.</p>
<b>Forage</b>	All browse and non-woody plants available to livestock or wildlife for grazing or harvestable for feed.
<b>Forb</b>	Any herb other than grass.
<b>Forest health</b>	The perceived condition of a forest derived from concerns about such factors as its age, structure, composition, function, vigor, presence of unusual levels of insects and disease, and resilience to disturbance. Perception and interpretation of forest health are influenced by individual and cultural viewpoints, land management objectives, spatial and temporal scales, the relative health in stands that comprise the forest, and the appearance of the forest at a point in time.
<b>Forest land</b>	Land at least 10 percent occupied by forest trees of any size or formerly having had such tree cover and not currently developed for non-forest use. Lands developed for non-forest use include areas for crops, improved pasture, residential or administrative areas, improved roads of any width and adjoining road clearing, and power line clearings of any width. (36 CFR 219.16)
<b>Forest products, commercial use (non-timber harvest)</b>	The sale of special forest products to commercial entities.
<b>Forest products, firewood, commercial use</b>	The sale of firewood, a type of special forest product, to commercial entities.
<b>Forest products, firewood, permitted personal use</b>	The collection of firewood, a type of special forest product, for personal, non-commercial use.

TERM	DEFINITION
<b>Forest road or trail</b>	A road or trail wholly or partly within or adjacent to and serving the National Forest System that the Forest Service determines is necessary for the protection, administration, and utilization. (Title 36, Code of Federal Regulations, Part 212—Administration of the Forest Transportation System, section 212.1.)
<b>Fuels</b>	Any material that will carry and sustain a forest fire, primarily natural materials, both live and dead.
<b>Goods and services</b>	The various outputs, including on-site uses, produced from forest and rangeland resources.
<b>Grazing allotment</b>	Area designated for the use of a certain number and kind of livestock for a prescribed period of time.
<b>Grizzly bear core habitat</b>	An area of secure habitat within a bear management unit that contains no motorized travel routes or high use non-motorized trails during the non-denning season and is more than 0.3 miles (500 meters) from a drivable road. Core areas do not include any gated roads but may contain roads that are impassible due to vegetation or constructed barriers. Core areas strive to contain the full range of seasonal habitats that are available in the bear management unit.
<b>Grizzly bear management unit (GBMU)</b>	<p>Areas established for use in grizzly bear analysis. GBMUs generally (a) approximate female home range size; and (b) include representations of all seasonal habitat components.</p> <p>A subunit of the Selkirk Grizzly Bear Recovery Area. Each BMU is intended to approximate the size of a female grizzly bear home range, include some portion of all seasonal habitats, and not cross political boundaries of land management agencies. Boundary lines follow natural features such as rivers, streams, and watershed boundaries; and man-made features such as roads, ownership and Public Land Survey System (PLSS) section lines. A project analysis unit upon which direct, indirect and cumulative effects analyses are performed.</p>
<b>Groundwater-dependent system (ecosystem)</b>	An area that requires access to groundwater to maintain its community of plants, animals, and processes. Examples include springs, seeps, fens, and wetlands.
<b>Guidelines</b>	Information and guidance for project and activity decision making to help achieve desired conditions and objectives in the plan area.
<b>Habitat capability</b>	The estimated ability of an area, given existing or predicted habitat conditions, to support a wildlife, fish, or plant population. It is measured in terms of potential population numbers.

TERM	DEFINITION
<b>Habitat connectivity</b>	A measure of the ability of organisms to move among separated patches of suitable habitat (Hilty et al. 2006), and is important for providing the long-term viability of populations (Hanski 2002), and for allowing species to respond to changing climate (Heller and Zavleta 2009). Landscape features influence how of if a species can move. These may include natural features such as topography or land cover, or human created features such as highways or roads.
<b>Habitat effectiveness</b>	A measurement of the effect of human access on wildlife and wildlife habitat. In this proposal habitat effectiveness is analyzed as an index of the amount of habitat that is impacted by human access for a given species. Generally, two types of indices (measures) are used to assess the impacts of roads and trails on wildlife habitats: (1) the density of travel routes (e.g., miles of route/square miles of habitat) or (2) the zone of influence. The zone of influence refers to the distance on each side of a road or trail within which habitat use by a species of interest is affected by the human use that occurs on the road or trail. Both density and zone of influence are determined by species-species research (see Gaines et al. 2003 for a review).
<b>Heritage resources</b>	Archaeological and historic sites, structures, buildings, artifacts, sacred sites, and traditional cultural properties identified through research, field inventory, and historic documentation that are important to the American public and American Indian Tribes.
<b>High quality habitat</b>	Habitat that completely satisfies a species life history (e.g., food, shelter, security) requirements.
<b>Historical range of variability</b>	Refers to the dynamic behavior and functioning of ecosystems before dramatic changes occurred with European settlement, generally considered to be the mid-1800s for this area (Aplet and Keeton 1999). The historical range of variability provides a framework to determine changes to ecosystem attributes that have occurred between historical and current conditions and recognizes that ecosystems experience a range of conditions across which processes are resilient and self-sustaining
<b>Horizontal cover</b>	That portion of a tree or shrub that grows horizontally (parallel to the ground) out from the main trunk/stem of the plant (i.e., a tree bough) and provides cover up to approximately 5 to 7 feet above the ground. Horizontal cover refers to the stems/boughs that are used by snowshoe hares and are subsequently considered foraging habitat for lynx.



TERM	DEFINITION																																										
Hydrologic unit (HU) system	<p>A nested-hierarchical classification of hydrologic units (watersheds) delineated national by the United States Geological Survey with six levels of classification of successively smaller hydrologic units. Individual hydrologic units are denoted numerically by a unique hydrologic unit code, with the number of digits within the code based on the level of classification, and both a general hydrologic unit name, and a specific name. The following table shows the classification, names, # of digits in the code, level of classification, average size, and an example of name and number of at each level of classification from the hydrologic hierarchy of the Ninemile subwatershed.</p> <table><tr><th>Hydrologic Unit (HU) name</th><th># of digits in HUC</th><th>HU Level</th><th>Average Size (sq. miles)</th><th>Example Name</th><th>Example Number</th></tr><tr><td>Region</td><td>2</td><td>1st</td><td>180,000</td><td>Pacific Northwest Region</td><td>17</td></tr><tr><td>Subregion</td><td>4</td><td>2nd</td><td>17,000</td><td>Upper Columbia Subregion</td><td>1702</td></tr><tr><td>Basin</td><td>6</td><td>3rd</td><td>10,000</td><td>Upper Columbia Basin</td><td>170200</td></tr><tr><td>Subbasin</td><td>8</td><td>4th</td><td>700</td><td>Sanpoil Subbasin</td><td>17020004</td></tr><tr><td>Watershed</td><td>10</td><td>5th</td><td>227 (40,000-250,000 acres)</td><td>Upper Sanpoil Watershed</td><td>1702000401</td></tr><tr><td>Subwatershed (SWS)</td><td>12</td><td>6th</td><td>40 (10,000-40,000 acres)</td><td>Ninemile Subwatershed</td><td>170200040107</td></tr></table>	Hydrologic Unit (HU) name	# of digits in HUC	HU Level	Average Size (sq. miles)	Example Name	Example Number	Region	2	1st	180,000	Pacific Northwest Region	17	Subregion	4	2nd	17,000	Upper Columbia Subregion	1702	Basin	6	3rd	10,000	Upper Columbia Basin	170200	Subbasin	8	4th	700	Sanpoil Subbasin	17020004	Watershed	10	5th	227 (40,000-250,000 acres)	Upper Sanpoil Watershed	1702000401	Subwatershed (SWS)	12	6th	40 (10,000-40,000 acres)	Ninemile Subwatershed	170200040107
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Hydrologically connected road	<p>A segment of road that is connected to the natural stream channel network via surface flow (Flanagan et al. 1998). Roads that are hydrologically connected deliver water, sediment, and chemicals generated on the road surface directly to the stream channel network.</p>																																										
Indicator	<p>A measure or measurement of an aspect of a sustainability criterion. A quantitative or qualitative variable that can be measured or described and, when observed periodically, shows trends. Indicators are quantifiable performance measures of outcomes or objectives for attaining criteria designed to assess progress toward desired conditions.</p>																																										
Inner gorge	<p>An area where a stream has incised into a hillslope or valley bottom where surface materials may be unstable or erodible. The top of the inner gorge occurs where the slope of the wall breaks to &lt;50 percent.</p>																																										
Instream flow	<p>Water flowing in a stream channel. Instream flow is used to designate a specific stream flow measured in cubic feet per second (cfs) at a particular location for a defined time for protection and preservation of fish, wildlife, recreation, and other non-consumptive water uses in a waterway.</p>																																										

TERM	DEFINITION
<b>Interdisciplinary team (ID Team)</b>	A group of people that collectively represent several disciplines and whose duty is to coordinate and integrate the planning activities.
<b>Invasive species</b>	Non-native species whose introduction does or is likely to cause economic or environmental harm or harm to human health. Non-native species are any species, including its seeds, eggs, spores, or other biological material capable of propagating that species, that is not native to that ecosystem (with respect to a particular ecosystem). (EO13112)
<b>Inventoried roadless area</b>	Areas identified in a set of inventoried roadless area maps, contained in the Forest Service Roadless Area Conservation, Final Environmental Impact Statement, Volume 2, dated November 2000, and any subsequent update or revision of those maps through the land management planning process. (36 CFR 294.11)
<b>Issue</b>	Issues may be considered as: (1) A potential factor for determining need for change for a plan; (2) Specific resource concerns about a proposed action under NEPA (FSM 1950); (3) Points of contention or disagreement; or (4) A subject or question of widespread public interest about management of the National Forest System.
<b>Key habitat (grizzly bear)</b>	Vegetation components that are crucial for grizzly bear survival, such as Whitebark pine, riparian habitats, berry-producing shrub fields, natural meadows, and forest cover.
<b>Key watershed</b>	Key watersheds are a network of watersheds designated at the subwatershed scale (6 <sup>th</sup> field, HUC12), to serve as strongholds for important aquatic resources or having the potential to do so. They are areas crucial to threatened or endangered fish and aquatic species of concern and/or interest, and/or areas that provide high quality water important for maintenance of downstream populations. Management emphasizes minimizing risk and maximizing restoration or retention of ecological health.
<b>Landscape</b>	A heterogeneous land area composed of interacting ecosystems evaluated at a broad scale to facilitate understanding of process, composition, structure, and pattern. In most cases this will be at a scale of a 5 <sup>th</sup> field HUC, at 10's of thousands of acres, to provide an understanding of coarse filter broad scale interplay and dynamics of soils, climate, fire, insects, hydrology, genetics, large home range wildlife, and vegetation.
<b>Landscape character</b>	Particular attributes, qualities, and traits of a landscape that give it an image and make it identifiable and unique. (Agricultural Handbook Number 701)
<b>Large woody debris</b>	Large pieces of relatively stable woody material located within the bankfull channel and appearing to influence bankfull flows.

TERM	DEFINITION
<b>Life history requirements</b>	Habitat and other environmental conditions need to support the series of living phenomena exhibited by an organism in the course of its development from inception to death. This includes seasonal behaviors and daily routines of juvenile and adults of the species.
<b>Lynx analysis unit (LAU)</b>	An area of at least the size used by an individual lynx, from about 25 to 50 square miles. A project analysis unit upon which direct, indirect and cumulative effects analyses are performed.
<b>Listed species (TE)</b>	Listed species (TE) are those listed by the U.S. Department of the Interior, U.S. Fish and Wildlife Service or the National Oceanic and Atmospheric Administration, National Marine Fisheries Service as threatened or endangered under the ESA (FSH 1909.12, 43.22a).
<b>Maintenance level (roads)</b>	Maintenance levels define the level of service provided by, and maintenance required for, a specific road. Maintenance levels must be consistent with road management objectives and maintenance criteria. The objective maintenance level is the maintenance level to be assigned at a future date considering future road management objectives, traffic needs, budget constraints, and environmental concerns. The objective maintenance level may be the same as, or higher or lower than, the operational maintenance level. (FSH 7709.59)
<b>Management area</b>	A specifically identified area on National Forest System lands to which specific plan components (desired conditions, objectives, identification of suitable and unsuitable land uses, or special designations) are applied.
<b>Management direction</b>	A statement of multiple-use and other goals and objectives, the associated management prescriptions, and standards and guidelines for attaining them.
<b>Management indicator species (MIS)</b>	A species selected because its welfare is presumed to be an indicator of the welfare of other species using the same habitat. A species whose condition can be used to assess the impacts of management actions on a particular area.
<b>Management practice</b>	A specific activity, measure, course of action, or treatment.
<b>Management prescription</b>	Management practices and intensity selected and scheduled for application on a specific area to attain multiple-use and other goals and objectives.
<b>Mechanized</b>	Wheeled forms of transportation (including non-motorized carts, wheelbarrows, bicycles and any other non-motorized, wheeled vehicle).

TERM	DEFINITION
<b>Mechanical transport</b>	Any contrivance for moving people or material in and over land, water, or air, having moving parts that provides a mechanical advantage to the user and that is powered by a living or non-living power source. This includes, but is not limited to, sailboats, hang gliders, parachutes, bicycles, game carriers, carts, and wagons. It does not include wheelchairs when used as necessary medical appliances. It also does not include skis, snowshoes, rafts, canoes, sleds, travois, or similar primitive devices without moving parts. (FSM 2320.3)
<b>Minerals – leasable</b>	Coal, oil, gas, phosphate, sodium, potassium, oil shale, Sulphur, and geothermal resources.
<b>Minerals - locatable</b>	Those hardrock minerals that are mined and processed for the recovery of metals. They also may include certain nonmetallic minerals and uncommon varieties of mineral materials, such as valuable and distinctive deposits of limestone or silica.
<b>Minimum impact suppression tactics (MIST)</b>	The concept of minimum impact suppression tactics is to use the minimum amount of forces necessary to effectively achieve fire management protection objectives. It implies a greater sensitivity to the impacts of suppression tactics and their long-term effects, when determining how to implement an appropriate suppression response. Fire managers and firefighters select tactics that have minimal impact to values at risk. These values are identified in approved Land or Resource Management Plans. Standards and guidelines are then tied to implementation practices which result from approved Fire Management Plans. Minimum impact suppression tactics is not intended to represent a separate or distinct classification of firefighting tactics but rather a mindset of how to suppress a wildfire while minimizing the long-term effects of the suppression action on other resources. The principle of fighting fire aggressively but providing for safety first will not be compromised in the process and when selecting an appropriate suppression response, firefighter safety must remain the highest concern.
<b>Mitigation measures</b>	Modifications of actions taken to: (a) avoid impacts by not taking a certain action or parts of an action; (b) minimize impacts by limiting the degree or magnitude of the action and its implementation; (c) rectify impacts by repairing, rehabilitating, or restoring the affected environment; (d) reduce or eliminate impacts over time by preservation and maintenance operations during the life of the action; or, (e) compensate for impacts by replacing or providing substitute resources or environments.
<b>Monitoring</b>	A systematic process of collecting information to evaluate changes in actions, conditions, and relationships over time and space or progress toward meeting desired conditions or plan objectives.

TERM	DEFINITION
<b>Motor Vehicle Use Map</b>	A map reflecting designated roads, trails, and areas on an administrative unit or a ranger district of the National Forest System (36 CFR 212.1).
<b>National Forest System (NFS)</b>	All national forest lands reserved or withdrawn from the public domain of the United States; all national forest lands acquired through purchase, exchange, donation, or other means; the national grasslands and land utilization projects administered under Title III of the Bankhead-Jones Farm Tenant Act (50 Stat. 525, 7 U.S.C. 1010-1012), the Midewin Tallgrass Prairie, and other lands, waters, or interests therein which are administered by the Forest Service or are designated for administration through the Forest Service as a part of the system. (16 U.S.C. 1608)
<b>National visitor use monitoring program (NVUM)</b>	To gain a better understanding of the recreation use, importance of, and satisfaction associated with national forest recreation opportunities, the Forest Service embarked on the national visitor use monitoring project (NVUM) in the late 1990s. Each survey is conducted over the course of one year (October 1 – September 30) and includes questions regarding visitor use (activities), expenditures on recreation activities, and user satisfaction associated with the activities, settings, and infrastructure used while visiting the Forest.
<b>Objectives</b>	Concise projections of measurable, time-specific intended outcomes. The objectives for a plan are the means of measuring progress toward achieving or maintaining desired conditions. Like desired conditions, objectives are aspirations and are not commitments or final decisions approving projects and activities. (36 CFR 219.7)
<b>Occupied habitat</b>	An area that is currently being used by a species for one or more parts of its life history (such as nesting, foraging, roosting, denning). This area will receive repeat use and the animal is not simply travelling through to somewhere else.
<b>Off-highway vehicle (OHV)</b>	Any motor vehicle designed for or capable of cross-country travel on or immediately over land, water, sand, snow, ice, marsh, swampland, or other natural terrain. (36 CFR 212.1)
<b>Open motorized trail</b>	Trails that are passable by motorcycles or all-terrain vehicles and are not legally restricted.
<b>Overstory</b>	That portion of the trees in a forest of more than one story, forming the upper or uppermost canopy layer.
<b>Outstandingly remarkable value (wild and scenic rivers)</b>	A river-related value that is a rare, unique, or exemplary feature that is significant at a comparative regional or national scale.

TERM	DEFINITION
<b>Patch (patch size)</b>	<p>A patch is a relatively uniform area of vegetation that differs from its surroundings (NCSSF 2005). Patch size is influenced by disturbance history, vegetation dynamics, topographic position, and soils.</p> <p>For fisheries, a patch or patch size is the connected length of stream available to the focal species. Habitat patches within the subbasin are delineated by aggregating all connected stream kilometers of occupied habitat.</p>
<b>Plan area</b>	The National Forest System lands covered by a plan. (36 CFR 219.16)
<b>Plan components</b>	Broad guidance in a plan that identifies desired conditions, objectives, standards, guidelines, suitability of areas, and special areas.
<b>Plan set of documents</b>	The complete set of documentation supporting the land management plan. It may include, but is not limited to, evaluation reports, documentation of public involvement, the plan including applicable maps, applicable plan improvement documents, applicable NEPA documents, and the monitoring program for the plan area.
<b>Planned fire (planned ignition)</b>	An intentionally ignited fire with the intent to achieve specific objectives. A planned fire is generally covered under a NEPA decision document specifying a specific location, burning conditions, operational and management objectives, and monitoring measures. Includes all prescribed fire including pile burning slash piles. Also, see <i>unplanned fire</i> .
<b>Planning period</b>	The time interval within the planning horizon that is used to show incremental changes in yields, costs, effects, and benefits (generally 15 to 20 years).
<b>Population (ecological)</b>	Organisms of the same species that occur in a particular place at a given time.
<b>Population viability</b>	The likelihood of continued existence of a well-distributed population or species for a specific period. For most scientific analyses, the period is 100 years. For example, high viability is a high likelihood of continued existence of well-distributed populations for a century or longer.
<b>Potential wilderness area</b>	Inventoried lands within National Forest System lands that satisfy the definition of wilderness found in section 2(c) of the 1964 Wilderness Act. (FSH 1909.12, chapter 70, 01/31/2007)
<b>Primitive recreation</b>	Those recreation activities that are non-motorized and do not involve mechanical transport. Examples include hiking, horseback riding, hunting, canoeing, and cross-country skiing.

TERM	DEFINITION
<b>Project</b>	An organized effort to achieve an objective identified by location, activities, outputs, effects, times, and responsibilities for execution.
<b>Project design</b>	The process of developing specific information necessary to describe the location, timing, activities, outputs, effects, accountability, and control of a project.
<b>Proper functioning condition</b>	Proper functioning condition is a concept used to assess natural habitat forming processes of riparian and wetland areas (Pritchard et al. 1998). Systems in a properly functioning condition are dynamic and resilient to disturbance to structure, composition and processes of their biological and physical components. Primary elements typically include hydrologic characteristics, physical structure/form, vegetative characteristics, water quality and quantity, and aquatic/riparian biological community characteristics. The general methodology to assess properly functioning condition provides an integrated measure of condition and can be used at a variety of scales from individual reaches to watersheds.
<b>Public access</b>	Usually refers to a road or trail route over which a public agency claims a right-of-way for public use.
<b>Public involvement (public participation)</b>	A Forest Service process designed to broaden the information base upon which agency approvals and decisions are made by: (a) informing the public about Forest Service activities, plans, and decisions, and (b) encouraging public understanding about and participation in the planning processes that lead to final decision making.
<b>Public issue</b>	A subject or question of widespread public interest relating to management of the National Forest System.
<b>Public participation</b>	See <i>public involvement</i> .
<b>Range allotment</b>	A designated area containing land suitable and available for livestock grazing use upon which a specified number and kind of livestock are grazed under an approved allotment management plan. It is the basic management unit of the range resource on National Forest System lands administered by the Forest Service.
<b>Rangeland</b>	Land on which the indigenous vegetation (climax or natural potential) is predominately grasses, grass-like plants, forbs, or shrubs, and is managed as a natural ecosystem. If plants are introduced, they are managed similarly. Rangeland includes natural grasslands, savannas, shrub lands, many deserts, tundras, alpine communities, marshes, and meadows.

TERM	DEFINITION
<b>Reach</b>	A relatively homogenous section of stream having a repetitious sequence of habitat types and relatively uniform physical attributes such as channel slope, habitat width, habitat depth, streambed substrate and degree of interaction with its floodplain. (PNW Region 6 Stream Inventory Handbook [2010 version 2.1])
<b>Record of decision (ROD)</b>	A document separate from but associated with an environmental impact statement that states the decision; identifies all alternatives, specifying which were environmentally preferable; and states whether all practicable means to avoid environmental harm from the alternative have been adopted, and if not, why not. (40 CFR 1505.2)
<b>Recovery unit (bull trout)</b>	Bull trout recovery units are the major units for managing recovery efforts; each recovery unit is described in a separate chapter in the recovery plan. Most recovery units consist of one or more major river basins. Several factors were considered in identifying recovery units, for example, biological and genetic factors, political boundaries, and ongoing conservation efforts. In some instances, recovery unit boundaries were modified to maximize efficiency of established watershed groups, encompass areas of common threats, or accommodate other logistic concerns. Recovery units may include portions of mainstem rivers (e.g., Columbia and Snake rivers) when biological evidence warrants inclusion. Biologically, bull trout recovery units are considered groupings of bull trout for which gene flow was historically or is currently possible. (USFWS 2013).
<b>Recreation opportunity</b>	An opportunity for a user to participate in a preferred activity within a preferred setting, in order to realize those satisfying experiences which are desired.
<b>Recreation opportunity spectrum</b>	A framework of land delineations that identifies a variety of recreation experience opportunities categorized into classes on a continuum. The spectrum's continuum has been divided into six major classes for Forest Service use: Urban (U), Rural (R), Roaded Natural (RN), Semi-Primitive Non-Motorized (SPNM), Semi-primitive Motorized (SPM), and Primitive (P). (FSM 2311)
<b>Recreation residence</b>	A privately owned dwelling within an established recreation residence tract or group on National Forest System land, authorized for maintenance and use under a special use permit. A vacation structure authorized for the purpose of facilitating the use and enjoyment of related National Forest land and recreation resources by holders, their families, and guests. A recreation residence is not intended for use as the primary or permanent residence of the owner. (FSM 2340.5)



TERM	DEFINITION
<b>Recreation sites</b>	Specific places in the Forest other than roads and trails that are used for recreational activities. These sites include a wide range of recreational activities and associated development. These sites include highly developed facilities like ski areas, resorts, and campgrounds. It also includes dispersed recreation sites that have few or no improvements but show the effects of repeated recreation use.
<b>Reforestation</b>	The natural or artificial restocking of an area with forest trees; most commonly used in reference to artificial restocking.
<b>Refugia</b>	Locations and habitats that support populations of organisms that are limited to small fragments of their previous geographic range (i.e., endemic populations). (FEMAT)
<b>Regional Forester</b>	The official responsible for administering a single Forest Service region.
<b>Regulated timber production</b>	The technical (rather than legal or administrative) aspect of controlling forest stocking, periodic harvests, growth, and yields to meet management objectives including sustained yield. This control can be done either by area, volume of growing stock, or basal area measures. A regulated forest reaches sustained yield when the volume cut periodically equals the amount of net volume growth for that same period.
<b>Rehabilitation</b>	A short-term management alternative used to return existing visual impacts in the natural landscape to a desired visual quality.
<b>Resilience</b>	The capacity of a system to absorb disturbance and reorganize while undergoing change so as to still retain essentially the same function, structure, identity, and feedbacks. (FSM 2000, Chapter 2020)
<b>Responsible official</b>	The official with the authority and responsibility to oversee the planning process and to approve plans, plan amendments, and plan revisions. (36 CFR 219.16)
<b>Restoration</b>	The process of assisting the recovery of an ecosystem that has been degraded, damaged, or destroyed. It is an intentional activity that initiates or accelerates the recovery of an ecosystem with respect to its health, integrity, and sustainability.
<b>Reviewing officer</b>	The supervisor of the responsible official. The reviewing officer responds to objections made to a plan, plan amendment, or plan revision prior to approval. (36 CFR 219.16)

TERM	DEFINITION
<b>Riparian area</b>	Areas adjacent to rivers, streams, seeps, springs, and wetlands that are shaped and maintained by water table height, flooding, scour, and soil deposition. Riparian areas provide habitat for aquatic and upland plants and animals, and provide shade, bank stability, and runoff filtration
<b>Riparian-dependent resources</b>	Resources that owe their existence to the riparian area
<b>Riparian ecosystem</b>	An ecosystem whose components are directly or indirectly attributed to the influence of surface and groundwater ( <a href="http://www.icbemp.gov">www.icbemp.gov</a> ), located adjacent to rivers, streams, and other hydrologic features. Riparian ecosystems encompass both the river and adjacent floodplain, and provide the transition between the aquatic and terrestrial ecosystem.
<b>Riparian Habitat Conservation Area / Riparian management area</b>	Lands along permanently flowing streams, ponds, lakes, wetlands, seeps, springs, intermittent streams, and unstable sites that may influence these areas where management activities are designed to maintain, restore or enhance the ecological health of aquatic and riparian ecosystems and dependent resources.
<b>Road</b>	A motor vehicle route over 50 inches wide, unless identified and managed as a trail.
<b>Road construction</b>	FSM 7705 defines road construction or reconstruction together as the supervising, inspecting, actual building, and incurrence of all costs incidental to the construction or reconstruction of a road (36 CFR 212.1).
<b>Road decommissioning</b>	Activities that result in restoration of unneeded roads to a more natural state <i>see decommissioning</i> . (FSM 7734)
<b>Road maintenance</b>	Ongoing upkeep of a road necessary to maintain or restore the road in accordance with its road management objectives. (FSM 7714)
<b>Roadless area</b>	<i>See inventoried roadless area</i>
<b>Scenic integrity objective (SIO)</b>	The scenic integrity objectives serve as the desired conditions for the scenic resources and represent the degree of intactness of positive landscape attributes. SIOs are categorized into 5 levels. The highest scenic integrity ratings are given to those landscapes where valued landscape attributes will appear complete with little or no visible deviations evident. Lower SIOs are given to those landscapes where modifications to the landscape will be more evident.

TERM	DEFINITION
<b>Self-sustaining population</b>	Populations that are sufficiently abundant, interacting, and well distributed in the plan area, within the bounds of their life history and distribution of the species and the capability of the landscape, to provide for their long-term persistence, resilience and adaptability over multiple generations.
<b>Sensitive species</b>	Those species of plants or animals that have appeared in the Federal Register as proposed for classification and are under consideration for official listing as endangered or threatened species, that are on an official state list, or that are recognized by the Regional Forester as needing special management to prevent their being placed on federal or state lists.
<b>Seral stage</b>	A biotic community that is a developmental, transitory stage in an ecological succession.
<b>Sidecast</b>	Placement of unconsolidated excavated material from road construction and maintenance over the downhill side of the road.
<b>Silvicultural practices</b>	Activities that control the establishment, composition, structure, and function of forested ecosystems.
<b>Slope distance</b>	A measure of distance along a slope.
<b>Snag</b>	A standing dead tree usually greater than 5 feet in height and 6 inches in diameter at breast height (d.b.h.).
<b>Source water protection area habitat</b>	Source water is untreated water from streams, rivers, lakes or underground aquifers that provides public drinking water. A source water protection area is the land area contributing to a public water system where potential contamination could affect drinking water supply. Those characteristics of macrovegetation that contribute to stationary or positive population growth. Distinguished from habitats associated with species occurrence: such habitats may or may not contribute to long-term population persistence (Wisdom et al. 2000).
<b>Special areas</b>	Areas in the National Forest System designated for their unique or special characteristics. (36 CFR 219.7)
<b>Special forest products</b>	Products collected from National Forest System lands that include, but are not limited to, bark, berries, boughs, bryophytes, bulbs, burls, Christmas trees, cones, ferns, firewood, forbs, fungi (including mushrooms), grasses, mosses, nuts, pine straw, roots, sedges, seeds, transplants, tree sap, wildflowers, fence material, mine props, posts and poles, shingle and shake bolts, and rails. Special forest products do not include sawtimber, pulpwood, non-sawlog material removed in log form, cull logs, small roundwood, house logs, telephone poles, derrick poles, minerals, animals, animal parts, insects, worms, rocks, water, and soil (36 CFR part 223 Subpart G).

TERM	DEFINITION
<b>Special use authorization</b>	A permit, term permit, lease, or easement that allows occupancy, use, rights, or privileges of National Forest System land.
<b>Species-at-risk</b>	All ESA listed TES , SOC and SOI form a suite of species recognized as potentially sensitive to management actions from which focal species are chosen to serve as surrogates for assessing current conditions and potential effects of alternatives to other aquatic vertebrate and invertebrate species, and other species-at-risk. The criteria, established in FSH 1909.12 Chapter 43.22, determine how species-at-risk are sorted.
<b>Species of concern (SOC)</b>	Species of concern are species for which the responsible official determines if management actions may be necessary to prevent listing under the ESA. Identified species of concern may include entities such as distinct population segments or evolutionarily significant units that may be listed under the ESA.
<b>Species of interest (SOI)</b>	Species-of-interest (SOI) are species for which the responsible official determines that management actions may be necessary or desirable to achieve ecological or other multiple-use objectives (FSH 1909.12, 43.22c).
<b>Species viability</b>	A viable population is one for which the number and distribution of reproductive individuals would “insure its continued existence”. (1982 Planning rule)
<b>Standards</b>	Constraints upon project and activity decision-making explicitly identified in a plan as ‘standards.’ Standards are established to help achieve the desired conditions and objectives of a plan and to comply with applicable laws, regulations, Executive orders, and agency directives (36 CFR 219.7(a)(3). A standard differs from a guideline in that a standard is a strict design criteria, allowing no variation, whereas a guideline allows variation if the result would be equally effective. (FSH 1909.12)
<b>Stewardship</b>	Natural resource management emphasizing careful and conscientious use and conservation of resources and ecosystems in a sustainable manner.
<b>Structural Stage</b>	Tree structure is classified into five general groups based on diameter and canopy cover. The diameter is based on the quadratic mean diameter in inches of trees whose heights are in the top 25 percent of all tree heights in the stand. This generally means that the diameters of the larger co-dominant trees in a stand are used to define the structure class.
<b>Structural Stage – Early</b>	Trees less than 10 inches d.b.h. <sup>6</sup> or canopy cover less than 10 percent
<b>Structural Stage – Mid Open</b>	Trees 10 to 20 inches d.b.h., canopy cover between 10 and 40 percent

<sup>6</sup> d.b.h. = diameter at breast height.

TERM	DEFINITION
<b>Structural Stage – Mid Closed</b>	Trees 10 to 20 inches d.b.h., canopy cover 40 percent or greater
<b>Structural Stage – Late Open</b>	Trees 20 inches or greater d.b.h., canopy cover between 10 and 40 percent
<b>Structural Stage – Late Closed</b>	Trees 20 inches or greater d.b.h., canopy cover 40 percent or greater
<b>Subbasin</b>	A watershed with a drainage area of approximately 800,000 to 1,000,000 acres, equivalent to a 4th-field hydrologic unit code (HUC8). Hierarchically, subwatersheds are contained within a 5 <sup>th</sup> -field watershed, which are contained within subbasins. (ICBEMP) See <i>Hydrologic Unit System</i>
<b>Subwatershed</b>	A watershed with a drainage area of 10,000 to 40,000 acres, equivalent to a 6th-field Hydrologic Unit Code (HUC12). Hierarchically, subwatersheds are contained within 5 <sup>th</sup> -field watersheds, which are contained within subbasins. (ICBEMP) ) See <i>Hydrologic Unit System</i>
<b>Succession</b>	<p>The sequential replacement over time of one plant community by another, in the absence of major disturbance. The different stages of succession are often referred to as seral stages. Developmental stages are as follows:</p> <p><b>Early seral:</b> Communities that occur early in the successional path and generally have less complex structural developmental than other successional communities. Seedling and sapling size classes are an example of early seral forests.</p> <p><b>Mid-seral:</b> Communities that occur in the middle of the successional path. For forests, this usually corresponds to the pole or medium saw timber-size growth stages.</p> <p><b>Late-seral:</b> Communities that occur in the later stage of the successional path with mature, generally larger individuals, such as mature forests.</p>
<b>Suitable habitat</b>	Habitat that currently has both the fixed and variable attributes for a given species habitat requirements. Variable attributes change over time and may include seral stage, cover type and overstory canopy cover.
<b>Suitability</b>	The appropriateness of a particular area of land for applying certain resource management practices, as determined by an analysis of the existing resource condition and the social, economic, and environmental consequences and the alternative uses foregone. A unit of land may be suitable for a variety of individual or combined management practices.
<b>Surrogate species</b>	Intended to represent ecological conditions that generate sustainable ecosystems

TERM	DEFINITION
<b>Sustainability</b>	Meeting needs of the present generation without compromising the ability of future generations to meet their needs. Sustainability is composed of desirable social, economic, and ecological conditions or trends interacting at varying spatial and temporal scales embodying the principles of multiple-use and sustained-yield.
<b>Thermal cover</b>	Cover used by animals to lessen the effects of weather; for elk, a stand of coniferous trees 12 meters (40 feet) or more tall with an average crown closure of 70 percent or more; for deer, cover may include saplings, shrubs, or trees at least 1.5 meters (5 feet) tall) with 75 percent crown closure.
<b>Threatened species</b>	Any species of animal or plant that is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range and which has been designated in the Federal Register by the Secretary of Interior as a threatened species.
<b>Timber harvest</b>	The removal of trees for wood-fiber use and other multiple-use purposes.
<b>Timber harvest as a tool</b>	Areas where timber harvest is allowed to be used to reach multiple-use objectives, but regulated timber production is not a suitable use.
<b>Timber harvest, scheduled production</b>	Lands where regulated timber production is suitable.
<b>Timber production</b>	The purposeful growing, tending, harvesting, and regeneration of regulated crops of trees to be cut into logs, bolts, or other round sections for industrial or consumer use (36 CFR 219.16). In addition, managing land to provide commercial timber products on a regulated basis with planned, scheduled entries.
<b>Transportation and utility corridor</b>	A parcel of land, without fixed limits or boundaries, which is used as the location for one or more transportation or utility right-of-ways. (36 CFR 219.3)
<b>Transportation system</b>	The system of National Forest System roads, national forest trails and airfields on National Forest System lands. (36 CFR 212.1)
<b>Travel management</b>	Travel management decisions include adding a route to or removing a route from the forest transportation system, constructing an National Forest System road or National Forest System trail, acquiring an National Forest System route through a land purchase or exchange, decommissioning a route, approving an area for motor vehicle use, or changing allowed motor vehicle classes or time of year for motor vehicle use. (FSM 7715)
<b>Unauthorized roads or trails</b>	A road or trail that is not a forest road or trail or a temporary road or trail and that is not included in a forest transportation atlas. (36 CFR 212.1)

TERM	DEFINITION
<b>Uncharacteristic fire</b>	<p>Any fire that occurs outside the time, space, and severity parameters of the natural fire regime for the vegetation group.</p> <p>RCW 76.06.020(16), "ecologically atypical for a forest or vegetation type or plant association and refers to fire, insect or disease events that are not within a natural range of variability."</p> <p>WDNR. 2012. Staff Report: Forest Health Technical Advisory Committee. Washington State Department of Natural Resources.</p>
<b>Understory reinitiation</b>	<p>Establishment of tree regeneration as older trees occupy less than full growing space.</p>
<b>Uneven-aged management</b>	<p>The application of a combination of actions that results in the creation or maintenance of stands with several different ages of trees. Managed uneven-aged forests are characterized by a distribution of tree ages throughout the forest area. An uneven-aged stand of trees is one in which there are differences in age among the individual trees. Group selection, variable density thinning, and shelterwood with reserves are methods that produce uneven-aged stands (Helms 1998)</p>
<b>Unplanned fire</b>	<p>Any unplanned non-structural fire. Any unplanned fire may be concurrently managed for one or more objectives and those objectives can change as the fire spreads across the landscape, encountering new fuels, weather, social conditions, and governmental jurisdictions. Current policy requires that all arson fires be suppressed.</p>
<b>Unroaded</b>	<p>Unroaded areas are large and contiguous areas, usually over 5,000 acres, with no Forest Service System roads. They provide a recreational setting without Forest Service System roads.</p>
<b>Utility and transportation corridors</b>	<p>See <i>Transportation and utility corridors</i>.</p>
<b>Variable density thinning</b>	<p>A type of variable retention harvest system that retains structural elements and biological legacies (snags, logs, trees) from the harvested stand for incorporation into the new stand to achieve various ecological objectives (Helms 1998)</p>

TERM	DEFINITION
<b>Vegetation management</b>	<p>Activities designed primarily to promote the health of forest vegetation in order to achieve desired results. When vegetation is actively managed, it means that it is manipulated or changed on purpose by humans to produce desired results. Where active management of vegetation is required, techniques are based on the latest scientific research and mimic natural processes as closely as possible. Vegetation management is the practice of manipulating the species mix, age, fuel load, and/or distribution of wildland plant communities within a prescribed or designated management area in order to achieve desired results. It includes prescribed burning, grazing, chemical applications, biomass harvesting, and any other economically feasible methods of enhancing, retarding, modifying, transplanting, or removing the aboveground parts of plants.</p>
<b>Watershed</b>	<p>The area of land where all contributing water drains to a single defined outlet point. (FEMAT, IX-39). Watersheds occur and are categorized at various scales, described in the Hydrologic Unit system definition.</p> <p>A watershed is also the 5th field hydrologic unit within the Hydrologic Unit system. Fifth-field watersheds classified by the Hydrologic Unit system are approximately 250,000 acres. Hierarchically, 5<sup>th</sup>-field watersheds, are contained within subbasins, and contain subwatersheds.</p>
<b>Watershed condition class</b>	<p>Watershed condition is the state of physical and biological characteristics and processes within a watershed that affect the hydrologic and soil functions supporting aquatic ecosystems (Potyondy and Geier 2010). Three classes are used to describe watershed condition (FSM 2521.1):</p> <ul style="list-style-type: none"> <li>• Class 1: Functioning properly--watersheds exhibit high geomorphic, hydrologic, and biotic integrity relative to their natural potential condition;</li> <li>• Class 2: Functioning at risk--watersheds exhibit moderate geomorphic, hydrologic, and biotic integrity relative to their natural potential condition;</li> <li>• Class 3: Impaired function--watersheds exhibit low geomorphic, hydrologic, and biotic integrity relative to their natural potential condition.</li> </ul> <p>Change in watershed condition class through focused restoration activities is the nationally consistent measure to demonstrate improvement in watershed condition on NFS lands.</p>



TERM	DEFINITION
<b>Wetlands</b>	Areas that are inundated by surface or ground water with a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs and similar areas.
<b>Wild and scenic rivers</b>	<p>Those rivers or sections of rivers designated as such by congressional action under the 1968 Wild and Scenic Rivers Act, as supplemented and amended, or those sections of rivers designated as wild, scenic, or recreational by an act of the Legislature of the State or States through which they flow. Wild and scenic rivers may be classified and administered under one or more of the following categories:</p> <ol style="list-style-type: none"> <li>1. Wild River Areas-- Those rivers or sections of rivers that are free of impoundments and generally inaccessible except by trail, with watersheds or shorelines essentially primitive and waters unpolluted. These represent vestiges of primitive America.</li> <li>2. Scenic River Areas-- Those rivers or sections of rivers that are free of impoundments, with watersheds still largely primitive and shorelines largely undeveloped, but accessible in places by roads.</li> <li>3. Recreational River Areas-- Those rivers or sections of rivers that are readily accessible by road or railroad, that may have some development along their shorelines, and that may have undergone some impoundment or diversion in the past.</li> </ol>
<b>Wilderness</b>	An area of National Forest System land designated by Congress and wilderness is defined in sec. 2(c) of the Wilderness Act (16 U.S.C. 1131-1136). The term wilderness is applied to all National Forest System lands included in the National Wilderness Preservation System. (FSM 2320.5)
<b>Wilderness resource spectrum (WRS)</b>	A spectrum of wilderness conditions including finer gradations of naturalness and solitude mapped as pristine, primitive, semi-primitive, and transition. WRS is a kind of zoning where different management prescriptions apply.
<b>Wildland-urban interface (WUI)</b>	<p>Wildland-urban interface (WUI) is defined as “the line, area, or zone where structures and other human development meet or intermingle with undeveloped wildland or vegetative fuels” (NWCC 2012). In applying Title I of Healthy Forests Restoration Act (HFRA) (P.L. 108-148), this term means:</p> <ul style="list-style-type: none"> <li>• An area within or adjacent to an at-risk community identified in recommendations to the Secretary in a Community Wildfire Protection Plan (CWPP),</li> </ul> <p>or, in the case of any area for which a CWPP is not in effect:</p>

TERM	DEFINITION
	<ul style="list-style-type: none"><li>• An area extending ½ mile from the boundary of an at-risk community; an area within 1 ½ miles of the boundary of an at-risk community including any land that has a sustained steep slope that creates the potential for wildland fire behavior endangering the at-risk community, has a geographic feature that aids in creating an effective firebreak, such as a road or ridgetop, or is in Condition Class 3, as documented by the Secretary in the project-specific environmental analysis; and an area that is adjacent to an evacuation route for an at-risk that the Secretary determines (in cooperation with the at-risk community) requires hazardous fuel reduction to provide safer evacuation.</li></ul> <p>When not using Title I of the HFRA, use the definition of wildland-urban interface community from the Federal Register, January 4, 2001, pages 752 to 753.</p>
<b>Winter Range</b>	The area available to and used by wildlife (big game) during the winter season (Dec 1 to April 30). Generally, lands below 4,000 feet in elevation, on south and west aspects, that provides forage and cover.

## **Appendix A. Public Involvement Summary**

### **Introduction**

This appendix summarizes the collaboration and coordination efforts for the Colville National Forest (NF) plan revision. It describes how the Colville NF engaged with the public, stakeholders, tribes, and other agencies throughout this effort. The first section of the document, Collaboration and Public Involvement Effort, provides information on meetings, workshops, and process used for sharing information and obtaining input. Appendix B, Coordination with Other Public Planning Effort, briefly displays the planning and land use policies on adjacent and overlapping lands and how the Colville NF took that guidance into consideration.

### **Collaboration and Public Involvement Effort**

Recognizing that our partners and publics have valuable ideas, knowledge, opinions, and needs that can inform and improve management of the Colville NF, the planning team developed a public involvement plan designed to provide opportunities for meaningful dialogue and collaboration throughout the plan revision process. The following information is a synopsis of the key collaborative processes.

#### **2004 Public Meetings**

A Notice of Intent to revise the Colville National Forest plan was published in the Federal Register on March 9, 2004. Public involvement for the Colville NF plan revision began in 2004 with community workshops about the need to change the existing forest plan. Workshops were held in communities throughout northeastern Washington. Meetings with representatives from local counties began in 2004, and are being held on a continuing basis throughout the forest plan revision process. Government-to-government consultation with tribal nations and staff-to-staff consultation with their resource specialists began early in the process and continues. State agencies are cooperating agencies. Additional meetings with interest groups, user groups, State and Federal officials, tribal staff, and industry groups have been held.

#### **2004–2011 Agency Meetings**

Federal agencies the Forest Service works closely with are the Department of Homeland Security, Bureau of Land Management, Bureau of Indian Affairs, Bureau of Reclamation, Federal Highway Administration, and the U.S. Fish and Wildlife Service. A 2007 Memorandum of Agreement with the Washington State Association of Counties provides a framework for our work with the three local counties. Three federally recognized tribes have engaged at varied levels: the Colville Confederated Tribes, the Kalispel and Spokane Tribes. Cooperating agencies: State of Washington and its agencies, the Department of Natural Resources, Department of Fish and Wildlife, and Department of Ecology. See Table A- 2 for a list of meetings.

#### **2006–2008 Collaboration Working Groups**

In March of 2006, a more involved public participation opportunity was initiated as revision of forest plans for the Colville and Okanogan-Wenatchee National Forests continued. These collaborative efforts have provided the Forest Service with an excellent opportunity to focus on key planning issues, and listen to the public stakeholder dialogue around these issues as participants sought to reach areas of common ground and understanding. In March 2006, the

26281 Colville National Forest initiated its collaboration process separate from the Okanogan-  
26282 Wenatchee.

26283 Separate meetings were held in each county to spread the word about the collaborative forest  
26284 planning process. In April 2006 the Forest held a three day Forest Summit at an educational  
26285 retreat center on the forest. Participants gathered mid-afternoon on Friday and left mid-afternoon  
26286 on Sunday. Working groups were provided four different in-depth sessions to both work together  
26287 and get to know each other. The working groups had six day-long meetings, held between late  
26288 April 2006 and January 2007, and continued the meeting structure begun at the summit, with time  
26289 for information/education, time for working groups to use that information to discuss and  
26290 formulate recommendations, time for cross-group communication and time for informal  
26291 conversation.

26292 In the fall of 2008 the Colville National Forest hosted a series of public workshops to help the  
26293 agency evaluate Inventoried Roadless Areas (IRAs) within the Forest for their potential  
26294 recommendation as wilderness. Informational kick-off meetings were held in Colville and  
26295 Spokane in September 2008, and collaboration workshops were held in September, October, and  
26296 November of 2008, in Pend Oreille, Stevens, and Ferry Counties respectively.

#### 26297 **2011 Scoping Period**

26298 On June 30, 2011, a Notice of Intent to prepare an environmental impact statement and revised  
26299 land management plan was published in the Federal Register. The Forest Service published a  
26300 combined notice announcing the proposed actions for the Colville and Okanogan-Wenatchee  
26301 National Forests were available for public review and comment. The 90-day comment period per  
26302 the 2011 notice drew 27,274 comment letters, of which 889 contained unique and substantially  
26303 different comments.

26304 In addition, public open houses were held in Colville, Republic, Omak, Spokane, and Newport  
26305 consecutively in July 2011. Two informational webinars were held on August 9 and September 1.  
26306 News releases were sent to both Forest's public affairs news media distribution lists from which  
26307 many local and regional news outlets published the story.

#### 26308 **2014 Colville Forest Plan**

26309 Public meetings and outreach efforts continued through 2013, based on the information related to  
26310 both forests. After reviewing comments received during the scoping period, the regional forester  
26311 determined that the most effective process to reflect public input and resource needs at that time  
26312 was to separate the Colville and Okanogan-Wenatchee National Forests' plan revision effort. In  
26313 August 2014, the Colville and Okanogan-Wenatchee forests opted to separate their planning  
26314 efforts and the Colville proceeded to revise its plan along a different timeline.

#### 26315 **2015 Public Coordination**

26316 In preparation for the release of the draft environmental impact statement and revised Forest Plan,  
26317 the Forest released a summer newsletter and list of frequently asked questions in July, and a fall  
26318 newsletter in October. The Forest updated the mailing list and forest plan website, and held  
26319 informational meetings with USFWS, WDFW & counties.

#### 26320 **Coordination with State, Federal and Local Governments**

26321 Coordination with State, Federal, and local governments occurred throughout the planning  
26322 process. A majority of the coordination that resulted in substantive plan language was around

topics of mutual interests such as wildlife management, potential wilderness areas, and managing across agency boundaries. More formal presentations and briefings were held with State, local and Federal elected officials including the city of Colville, town of Republic, town of Ione, Pend Oreille, Stevens, and Ferry County Board of Commissioners, and congressional representatives. The briefings and presentations focused on issues and key topics such as continued economic uses, access, and protections.

## **Tribal Meetings**

Due to the level of use of the forest by tribal members and the unique interests of area tribes, the Colville NF conducted extensive tribal consultation and scoping of tribal communities throughout the forest plan revision process. This consultation process reflects a long-standing commitment by the Colville NF to share the stewardship of public lands with area tribes. Throughout the plan revision process, tribal consultation was conducted at the government-to-government level with concerned tribes according to established memoranda of understanding and pertinent laws and regulations. Additionally, the forest scoped tribal communities and individual tribal members that use the forest. These efforts were made to assure that affected tribal publics were given the opportunity to participate in the planning process as required by the National Environmental Policy Act and other laws and regulations. At these meetings, a wide range of concerns were raised related to almost every aspect of land management. The primary tribal concerns were:

- Confederated Tribes of the Colville Reservation:
  - No new wilderness proposed in a management area “buffer zone” where the reservation borders the CNF, to allow for forest health treatments. Treatments would reduce the threat of wildfire and insect and disease infestations to the forests and communities on the reservation, and would continue to allow activities to be conducted under the Tribal Forest Protection Act (concern regarding impairment of the Tribe’s reserved rights);
  - The Tribe does not support NEWFCs “blueprint.”
- Kalispel Tribe:
  - Timber volume targets are lower than shown to be feasible;
  - Collaborative designations of active management areas and restoration areas need to be verified and checked against known resources issues before accepted or implemented;
  - Emphasize enforcement efforts and funding for controlling illegal OHV uses in the CNF;
  - Maintain the wilderness characteristics of all designated roadless areas. Support for the CNF proposed wilderness recommendations;
  - CCA Creek is high interest area for the Tribe, concern that it is not included as Key Watershed. Would like more effort put into CCA creek related to fish habitat improvement activities.
- Spokane Tribe:
  - Concern for protecting archeological sites and areas of cultural significance.

26363 **Table A- 1. Listing of Key Tribal Meetings and Discussions**

Date	Meeting	Location
10\21\2003	Meeting with Colville Confederated Tribes and Natural Resource Council	Nespelem, WA
1\23\2004	Spokane Tribe meeting	Wellpinit, WA
3\29\2005	Colville Confederated Tribes Natural Resources Director	Phone discussion
3\31\2005	Colville Confederated Tribes Natural Resources Director	Phone discussion
5\3\2005	Colville Confederated Tribes Natural Resources Committee meeting	Nespelem, WA
5\19\2006	Meeting with Colville Confederated Tribes	Okanogan, WA
8\27\2007	Letter from Colville Confederated Tribes	Letter to Rick Brazell
9\11\2007	Letter to Colville Confederated Tribes	Letter to Tribal Chair
6\10\2008	Colville Confederated Tribes meeting	Okanogan, WA
8\27\2008	Colville Confederated Tribes meeting	Okanogan, WA
9\30\2008	Colville Confederated Tribes Natural resources staff	Phone discussion
7\8\2009	Colville Confederated Tribes meeting	Nespelem, WA
7\9\2009	Kalispel Tribe Natural Resources Department meeting	Usk, WA
11\20\2010	Colville Confederated Tribes-Natural Resources Committee meeting	Nespelem, WA
8\29\2013	Spokane Tribe meeting	Wellpinit, WA
11\4\2014	Spokane Tribe meeting	Colville, WA
11\12\2014	Colville Confederated Tribes meeting	Colville, WA
12\15\2014	Kalispel Tribe Natural Resources Department meeting	Usk, WA
3\23\2015	Kalispel Tribe Natural Resources Department meeting	Colville, WA
6\30\2015	Colville Confederated Tribes meeting	Colville, WA
10\15\2015	Colville Confederated Tribes meeting	Colville, WA

26364 Additionally, there were meetings and phone calls with various stakeholders upon request and as  
 26365 needed to discuss and clarify comments received and to provide information.

26366 **Table A- 2. Listing of Collaboration and Public Involvement Meetings and Discussions**

Date	Meeting	Location
5\15\2003	Stevens Co. Public Lands Advisory Committee meeting	Colville, WA
5\28\2003	USFWS Little Pend Oreille Wildlife Refuge meeting	Colville, WA
6\6\2003	Bureau of Land Management meeting	unknown
10\27\2003	Public Meeting	Metline Falls, WA
10\28\2003	Public Meeting	Newport, WA
10\29\2003	Public Meeting	Spokane, WA
10\30\2003	Public Meeting	Colville, WA
12\3\2003	Public Meeting	Republic, WA
12\5\2003	Backcountry Horseman of Washington meeting	Cle Elum, WA
1\17\2004	Pacific Northwest 4-Wheel Drive Association meeting	Auburn, WA
1\17\2004	Washington State 4-Wheel Drive Association meeting	Auburn, WA
2\11\2004	Pacific Northwest Ski Areas Association	Snoqualmie Pass Summit, WA
3\30\2004	Colville NF Range Permittee meeting	Colville, WA

<b>Date</b>	<b>Meeting</b>	<b>Location</b>
6\5\2004	Colville NF Recreation Residence Special Use Permittees meeting	Metaline Falls, WA
6\22\2004	Inland Empire Chapter of Backcountry Horsemen	Spokane, WA
11\29\2004	The Mountaineers and environmental groups meeting	Seattle, WA
1\20\2005	Environmental groups meeting	Wenatchee, WA
3\18\2005	Forest Industry meeting	unknown
6\13\2005	Discussion of consultation process with members of USFWS and NOAA	Wenatchee, WA
7\2005	Public meeting	Colville, WA
8\9\2005	Okanogan County Planning Department meeting	Okanogan, WA
8\15\2005	Ferry Co. Commissioners	Republic, WA
8\23\2005	Colville, Okanogan, Wenatchee Roadless Area Task Force	Wenatchee, WA
9\12\2005	Pend Oreille Co. Commissioners	Newport, WA
9\13\2005	Stevens Co. Commissioners	Colville, WA
1\11\2006	Conservation Northwest meeting	Kettle Falls, WA
2\6\2006	Regional Ecosystem Office Regional Interagency Executive Committee meeting	Portland, OR
3\11\2006	Public Collaboration Information meeting	Deer Park, WA
3\8-17\2006	County Orientation meetings	Colville, Newport, Republic, and Spokane, WA
3\22\2006	Washington Trails Association	Wenatchee, WA
3\22\2006	Eastern Washington Cascades & Yakima Provincial Advisory Committee meeting	Wenatchee, WA
3\30\2006	Okanogan Valley Backcountry Horsemen	Okanogan, WA
3\31\2006-4\2\2006	Forest Plan Summit	Chewelah, WA
4\8\2006-5\30\2006	Community Check-in meetings	Ione, Newport, and Republic, WA
4\15\2006-5\27\2006	Collaboration Working Group meetings	Colville, Newport, and Republic, WA?
4\18\2006	Sierra Club and WOC environmental community task force meeting	unknown
4\20\2006	Sierra Club and WOC environmental community task force meeting	unknown
4\29\2006	Forest Health Working Group Public meeting	Chewelah, WA
5\13\2006	Recreation Working Group Public meeting	Chewelah, WA
5\17\2006	Meeting with Congresswoman McMorris-Rodgers staff	Colville, WA
5\22\2006	Stevens Co. Commissioners meeting	Colville, WA
5\31\2006	Forest Plan Collaboration Round-up meeting	Colville, WA
6\27\2006	Okanogan Co. Commissioners	Okanogan, WA
6\28\2006	Community Check-in meeting	Republic, WA
7\7\2006	Environmental Coalition meeting	unknown
9\30\2006	Collaboration Working Group Public meeting	Chewelah, WA
10\21\2006	Collaboration Working Group Public meeting	Colville, WA

<b>Date</b>	<b>Meeting</b>	<b>Location</b>
11\11\2006	Wilderness Collaboration Working Group Public meeting	Chewelah, WA
1\20\2007	Collaboration Working Group Public meeting	Chewelah, WA
3\1\2007	Forest Plan Collaboration Roundup meeting	Colville, WA
5\1\2007	Okanogan Backcountry Horsemen	Okanogan, WA
6\4\2007	Okanogan Co. Commissioners	Okanogan, WA
3\29\2008	Tri-County (Ferry, Pend Oreille, Stevens) Forest Plan Revision Summit	Colville, WA
6\16\2008	Northeast Washington Forestry Coalition meeting	Colville, WA
8\21\2008	Northeast Washington Forestry Coalition meeting	Colville, WA
9\6\2008	Collaboration kick-off meeting with Congresswoman McMorris-Rodgers staff	Colville, WA
9\6\2008	Wilderness Collaboration Orientation meeting with public	Colville, WA
9\12\2008	Wilderness Collaboration Information meeting	Spokane, WA
9\20\2008	Wilderness Collaboration Workshop	Cusick, WA
10\4\2008	Wilderness Collaboration Workshop	Colville, WA
10\8\2008	U.S. Customs and Border Protection meeting	Phone discussion
10\28\2008	Okanogan County Commissioners meeting	Okanogan, WA
11\1\2008	Wilderness Collaboration Workshop	Republic, WA
11\10\2008	WA State Dept. of Natural Resources meeting	Phone discussion
11\15\2008	Wilderness Collaboration Integration meeting	Colville, WA
12\5\2008	Meeting with Senator Cantwell and staff	Portland, OR
12\15\2008	Okanogan County Commissioners meeting	Okanogan, WA
1\23\2009	WA State Dept. of Fish and Wildlife	Phone call
1\27\2009	Meeting with Senator Cantwell's staff	Spokane, WA
1\29\2009	U.S. Customs and Border Protection meeting	Colville, WA
3\9\2009	U.S. Customs and Border Protection meeting	Colville, WA
4\16\2009	Eastern WA Resource Advisory Committee meeting	Spokane, WA
5\1\2009	Nature Conservancy meeting	Wenatchee, WA
7\2\2009	Tri-County Commissioners briefing on PWA evaluations	Colville, WA
7\30\2009	Eastern Washington Resource Advisory Committee meeting	Colville, WA
3\8\2010	U.S. Customs and Border Protection meeting	Colville, WA
3\8\2010	Okanogan Backcountry Horsemen Association meeting	Okanogan, WA
12\3\2010	Backcountry Horsemen of Washington Public Lands and Advocacy Committee meeting	unknown
2\15\2011	Washington State Dept. of Fish and Wildlife	Wenatchee, WA
5\2\2011	Pend Oreille County Commissioners meeting	Newport, WA
5\3\2011	Stevens County Commissioners meeting	Colville, WA
5\3\2011	Public Lands Advisory Committee (PLAC) meeting	Colville, WA
5\9\2011	Ferry County Commissioners meeting	Republic, WA
6\7\2011	U.S. Customs and Border Protection meeting	Colville, WA
6\20\2011	Ferry County Commissioners meeting	Colville, WA



<b>Date</b>	<b>Meeting</b>	<b>Location</b>
6\27\2011	Ferry County Commissioners	Correspondence with Republic District Ranger
7\13\2011	State Agency meeting with WADNR, WADoE, WDFW,	Wenatchee, WA
7\11\2011	Ferry, Pend Oreille & Stevens County Commissioners, and Congresswoman McMorris-Rodgers staff at Forest Plan Revision meeting	Colville, WA
7\18\2011	Ferry County Commissioners, Conservation NW, and The Lands Council at Forest Plan Revision meeting	Colville, WA
7\25\2011	Ferry County Commissioners meeting	Republic, WA
8\1\2011	Ferry County Commissioners meeting	Republic, WA
8\29\2011	Ferry, Pend Oreille & Stevens County Commissioners meeting	Phone conference
9\23\2011	WA State Dept. of Natural Resources meeting	unknown
10\3\2011	Ferry County Commissioners meeting	Republic, WA
10\10\2011	Pend Oreille County Commissioners meeting	Newport, WA
10\24\2011	Ferry County Commissioners, Congresswoman McMorris-Rodgers staff, Boise Cascade, and Vaagen Bros. Lumber, Inc. at Forest Plan Revision meeting	Colville, WA
2\21\2012	Ferry County Commissioners meeting	Republic, WA
4\2-3\2012	Public Lands Advisory Committee meeting	Colville, WA
4\27\2012	Ferry & Stevens County Commissioners, Public Lands Advisory Committee, and public meeting	Colville, WA
4\30\2012	Ferry County Commissioners at Forest Plan Revision meeting	Colville, WA
5\14\2012	Pend Oreille County Commissioners meeting	Newport, WA
6\12\2012	Ferry & Stevens County Commissioners, Ferry Co. Planning Commission, Public Lands Advisory Committee, and Stevens Co. Land Services meeting	Colville, WA
6\18\2012	Ferry County Commissioners at Forest Plan Revision meeting	Colville, WA
8\8\2012	Ferry & Stevens County Commissioners, Ferry Co. Planning Commission, Public Lands Advisory Committee, Stevens Co. Land Services, and public meeting	Colville, WA
8\13\2012	Ferry County Commissioners at Forest Plan Revision meeting	Colville, WA
10\22\2012	Pend Oreille County Commissioners meeting	Newport, WA
11\5\2012	Ferry County Commissioners meeting	Republic, WA
11\14\2012	US Fish and Wildlife Service consultation process meeting	Wenatchee, WA
1\14\2013	Pend Oreille County Commissioners meeting	Newport, WA
1\22\2013	Pend Oreille County Commissioners meeting	Newport, WA
5\28\2013	Pend Oreille County Commissioners meeting	Newport, WA
6\10\2013	Pend Oreille County Commissioners meeting	Newport, WA
6\18\2013	Okanogan County Commissioners meeting	Okanogan, WA
7\8\2013	Pend Oreille County Commissioners meeting	Newport, WA

<b>Date</b>	<b>Meeting</b>	<b>Location</b>
7\16\2013	Ferry, Pend Oreille, Stevens and Okanogan county meeting (Quad County)	Colville, WA
7\19\2013	Ferry, Pend Oreille, Stevens and Okanogan county meeting (Quad County)	Colville, WA
12\2\2013	Pend Oreille County Commissioners meeting	Newport, WA
2\25\2014	Public Lands Advisory Committee meeting	Colville, WA
6\30\2014	Ferry County Commissioners at Forest Plan Revision meeting	Colville, WA
1\20\2015	Ferry & Pend Oreille County Commissioners, and Public Lands Advisory Committee meeting	Colville, WA
1\20\2015	Pend Oreille County Commissioners meeting	Newport, WA
3\2\2015	Pend Oreille County Commissioners meeting	Newport, WA
3\9\2015	Ferry County Commissioners meeting	Republic, WA
4\7\2015	Ferry County Commissioners meeting	Republic, WA
4\13\2015	Ferry County Commissioners meeting	Republic, WA
4\20\2015	Pend Oreille County Commissioners meeting	Newport, WA
4\27\2015	Ferry County Commissioners meeting	Republic, WA
4\29\2015	Pend Oreille County Commissioners meeting	Newport, WA
5\4\2015	Ferry County Commissioners meeting	Republic, WA
5\5\2015	Pend Oreille County Commissioners meeting	Newport, WA
5\7\2015	Stevens County Commissioners meeting	Colville, WA
6\13\2015	Ferry County Commissioners meeting	Republic, WA
6\15\2015	Ferry County Commissioners meeting	Republic, WA
6\16\2015	Ferry, Pend Oreille & Stevens County Commissioners meeting	Phone conference
6\16\2015	Pend Oreille County Commissioners meeting	Newport, WA
6\23\2015	Stevens County Commissioners meeting	Colville, WA
6\23\2015	Ferry & Pend Oreille County Commissioners, and Congresswoman McMorris-Rodgers staff at Forest Plan Revision meeting	Colville, WA
6\29\2015	Stevens County Commissioners field meeting	CNF
7\13\2015	Ferry County Commissioners meeting	Republic, WA
7\14\2015	Stevens County Commissioners meeting	Colville, WA
7\20\2015	Pend Oreille County Commissioners meeting	Newport, WA
7\21\2015	Public meeting	Colville, WA
7\28\2015	Ferry, Pend Oreille, Stevens and Okanogan counties	Letter from county commissioners
8\4\2015	Spokane County Commissioners	Email
9\10\2015	Ferry, Pend Oreille, and Stevens counties	Kettle Falls, WA
9\11\2015	Ferry, Pend Oreille, and Stevens counties	Kettle Falls, WA
9\17\2015	Ferry, Pend Oreille, and Stevens counties	Colville, WA
11\10\2015	Meeting with state agencies – WDNR, WDOE, and WDFW	Conference call

**Information Made Available to the Public on the Forest Plan  
Revision Web Site**

- 26368  
26369  
26370 A summary of comments and identified significant issues has been posted to the project website.
- 26371 To meet the requirements of the 1982 Planning Rule Provisions, an analysis of the management  
26372 situation was prepared. Availability of the analysis of the management situation and the initial  
26373 working draft plan was published in the Federal Register with a Notice of Availability February  
26374 2016.
- 26375 Following the Notice of Availability published to the Federal Register, the Draft Plan and DEIS  
26376 were posted to the Colville website. Additionally, information was posted about how to comment,  
26377 plan development, collaboration, and how we used the best available science and specialist  
26378 reports.

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## Appendix B. Coordination with Other Public Planning Efforts

### Overview

Per the provisions of the 1982 planning regulations, the responsible official shall review the planning and land use policies of other Federal agencies, State and local governments, and American Indian tribes. In addition, the Chief of the Forest Service, Tom Tidwell, has called for an “all-lands approach” to accomplish ecosystem restoration. This will involve landowners and stakeholders working together across boundaries to decide on common goals for the landscapes they share. In order to facilitate this all-lands approach, it is important to understand the goals and anticipated activities of landowners adjacent to the national forest.

In preparing the Colville forest plan, the planning team reviewed the objectives expressed and evaluated the interrelationships. For the most part, the proposed Colville forest plan complements these other planning efforts. These plans, assessments, and strategies were considered in the development of plan components to ensure as much alignment as was practicable. Management approach sections of the plan articulate identified issues and opportunities for coordinating with various partners across administrative boundaries, particularly State, local, tribal, and Federal agencies. The primary concordances are in managing for safe and healthy vegetation conditions, protection of air and water quality, providing for quality core wildlife habitats with connectivity, and maintenance of high scenic values. Cross boundary issues include managing for wide ranging species and wildfire across agency boundaries, and working together to improve efficiency. While there were some differences related to the differing missions, no conflicts requiring alternative development were identified.

The following sections provide a summary of goals and activities of landowners adjacent to the national forest. Table B- 1 lists the other public planning efforts that were considered in the plan revision process.

**Table B- 1. Planning and Land Use Policies of State, Local, Tribal Governments and other Federal Agencies in the Greater Landscape, Considered in the Plan Revision**

Planning Document	Agency	Description
State		
WDFW Strategic Plan (2015)	Washington State Dept. of Fish and Wildlife (WDFW)	The plan includes goals such as conserving and protecting native fish and wildlife, and providing sustainable fishing, hunting, and other wildlife-related recreational and commercial experiences.
WDNR Strategic Plan (2010)	Washington State Dept. of Natural Resources (WDNR)	Goals stated in the plan include improving forest practices rules and strengthening implementation and compliance, preserving forest cover and protecting working forests and agriculture lands from conversion, developing renewable energy resources on state lands, and addressing the challenges of climate change.
Memorandum of Understanding (2013)	Washington State Dept. of Transportation (WSDOT)	The MOU between the USDA Forest Service, Pacific Northwest Region, and the WSDOT documents the steps necessary to coordinate transportation activities involving highways on National Forest System land to ensure the public's safe access over these highways.

Planning Document	Agency	Description
Washington State Scenic and Recreational Highways Strategic Plan (2010-2030)	Washington State Dept. of Transportation (WSDOT)	The plan establishes goals and performance measures consistent with the state's transportation policy goals.
Strategic Plan (2014-2019)	Washington State Parks and Recreation Commission	The plan states that the Commission has the broad responsibility to manage developed parks and recreation areas along with trails, ocean beach, marine parks, watercraft launches, and historic buildings and areas.
WDOE Strategic Plan (2013-2015)	Washington State Dept. of Ecology (WDOE)	The plan includes goals such as preventing and cleaning up pollution, and supporting sustainable communities and natural resources.
Water Quality Implementation Plan (2006), and addendum (2013)	Washington State Dept. of Ecology (WDOE)	A detailed plan developed by the CNF and Ecology to reduce pollution and measure progress toward meeting water quality standards for waterbodies on the forest that do not meet water quality standards. The plan identifies how much pollution needs to be reduced or eliminated to achieve water quality standards.
County		
Ferry County Comprehensive Plan (2013)	Ferry County, Washington	The county land use plan describes local government goals and objectives for land management and provides opportunities for coordination between the Forest Service and the county.
Pend Oreille County Comprehensive Plan (2013)	Pend Oreille County, Washington	The county land use plan describes local government goals and objectives for land management and provides opportunities for coordination between the Forest Service and the county.
Stevens County Comprehensive Plan (2008)	Stevens County, Washington	The county land use plan describes local government goals and objectives for land management and provides opportunities for coordination between the Forest Service and the county.
Okanogan County Comprehensive Plan (2014)	Okanogan County, Washington	The county land use plan describes local government goals and objectives for land management and provides opportunities for coordination between the Forest Service and the county.
Local		
Ferry County Community Wildfire Protection Plan (CWPP) (2006)	Multiparty	The plan outlines goals for at-risk-communities within and around the Colville NF. The plan also delineates the wildland-urban interface where human development meets and intermingles with undeveloped wildland or vegetative fuels.
Pend Oreille County Community Wildfire Protection Plan (CWPP) (2011)	Multiparty	The plan outlines goals for at-risk-communities within and around the Colville NF. The plan also delineates the wildland-urban interface where human development meets and intermingles with undeveloped wildland or vegetative fuels.
Stevens County Community Wildfire Protection Plan (CWPP) (2007)	Multiparty	The plan outlines goals for at-risk-communities within and around the Colville NF. The plan also delineates the wildland-urban interface where human development meets and intermingles with undeveloped wildland or vegetative fuels.

Planning Document	Agency	Description
Okanogan County Community Wildfire Protection Plan (CWPP) (2013)	Multiparty	The plan outlines goals for at-risk-communities within and around the Colville NF. The plan also delineates the wildland-urban interface where human development meets and intermingles with undeveloped wildland or vegetative fuels.
Tribal		
Draft Comprehensive Plan (2015)	Confederated Tribes of the Colville Reservation	The vision for the tribal comprehensive plan is based on goals for land use, transportation, housing, economic development, parks and recreation, shoreline management, and cultural resources.
Integrated Resource Management Plan (2000-2014), in revision	Confederated Tribes of the Colville Reservation	The plan provides guidelines for the use and protection of all forest resources, and serves as a basis for decision-making.
Wetland Program Plan (2012)	Confederated Tribes of the Colville Reservation	The plan includes a special program of management to maintain wetland productivity and health, and to prevent loss of wetlands from the landscape.
Kalispel Natural Resource Department Fish and Wildlife Management Plan (2002)	Kalispel Tribe	The Plan emphasizes managing sustainable native populations and habitats through watershed management principles.
Wetland Program Plan (2011-2017)	Kalispel Tribe	The wetland program goal is to protect, enhance, and/or restore wetland/riparian habitats throughout Kalispel ceded lands as opportunities and funding allows. The focus is on two main program core elements which are 1) wetland monitoring and assessment and 2) voluntary wetland restoration/protection.
Box Canyon Watershed Project (1997)	Kalispel Tribe	This project was initiated by the Kalispel Natural Resource Department as one of a number of measures designed to restore populations of native fish and meet the biological objectives of the Kalispel Resident Fish Project and to further goals outlined in the Kalispel Natural Resource Department Fish and Wildlife Management Plan.
Sustainable Community Master Plan (2014) and Integrated Resource Management Plan (IRMP)	Spokane Tribe of Indians	The Master Plan is the official policy document of the Tribe and is intended to be used as a decision-making tool. The IRMP is the overall reservation land use and natural resource planning document.
Federal		
Grizzly bear recovery plan (1993)	U.S. Fish and Wildlife Service	Provides general guidance for activities in the grizzly bear recovery area which helps to maintain consistency with other agency planning efforts.
Woodland caribou recovery plan (1994)	U.S. Fish and Wildlife Service	Provides general guidance for activities in the caribou recovery area which helps to maintain consistency with other agency planning efforts.
Bull trout recovery plan (2014)	U.S. Fish and Wildlife Service	Provides general guidance for activities in bull trout habitat which helps to maintain consistency with other agency planning efforts.

Planning Document	Agency	Description
Strategic Plan (2010)	U.S. Fish and Wildlife Service	The strategic plan was developed to react to climate change. It establishes a basic framework within which the Service will work as part of the larger conservation community to help ensure the sustainability of fish, wildlife, plants, and habitats in the face of accelerating climate change.
Comprehensive Conservation Plan (2000)	U.S. Fish and Wildlife Service – Little Pend Oreille National Wildlife Refuge	The plan describes the goals, objectives, and strategies for improving Refuge conditions including the types of habitat provided, partnership opportunities, and management actions needed to achieve desired conditions for the next 15 years.
Interagency Consultation Agreement (2013)	USFWS, USFS, and USDC NOAA fisheries	The purpose of the Consultation Agreement is to establish a general framework for conducting efficient and effective ESA Section 7 consultation on the revision of the Colville, and Okanogan Wenatchee National Forest Land and Resource Management Plans.
Okanogan-Wenatchee National Forests land management plan (Okanogan plan 1989, Wenatchee plan 1990)	USDA Forest Service	Forest planning efforts based upon the same regional vegetative desired conditions, standards, and guidelines, and similar objectives for restoration as the Colville NF. The cumulative restoration activities from the action alternatives from this plan could have a landscape level effect on modifying stand structure to reduce the risk of stand-replacing fire in similar vegetation types, while promoting resiliency with regard to climate change.
Idaho Panhandle National Forests land management plan (2015)	USDA Forest Service	Forest planning efforts based upon the same regional vegetative desired conditions, standards, and guidelines, and similar objectives for restoration as the Colville NF. The cumulative restoration activities from the action alternatives from this plan could have a landscape level effect on modifying stand structure to reduce the risk of stand-replacing fire in similar vegetation types, while promoting resiliency with regard to climate change.
National Best Management Practices for Water Quality Management on National Forest System Lands (2012)	USDA Forest Service	“This technical guide is the first volume of guidance for the Forest Service, U.S. Department of Agriculture, National Best Management Practices (BMP) Program. The National BMP Program was developed to improve agency performance and accountability in managing water quality consistent with the Federal Clean Water Act (CWA) and State water quality programs. Current Forest Service policy directs compliance with required CWA permits and State regulations and requires the use of BMPs to control nonpoint source pollution to meet applicable water quality standards and other CWA requirements.”
Resource Management Plan (in revision)	USDI Bureau of Land Management	The BLM in Washington is in the process of revising land management plans on their Spokane District. Resource Management Plans form the basis for every action and approved use on their public lands.
Memorandum of Understanding	Department of Homeland Security	A memorandum of understanding between the USDA Forest Service and the Department of Homeland Security Federal Emergency Agency (MOU 42 U.S.C. 5170a and 5170b) provides a general framework of cooperation in responding to, managing and coordinating, and financially accounting for major disasters and emergencies, and for resolving and differences or conflicts regarding this cooperation in an efficient and constructive manner.



Planning Document	Agency	Description
Federal Columbia River Power System (FCRPS) Biological Opinion (2010, Final Supplemental BO 2014)	Bureau of Reclamation	A comprehensive program to protect listed species of salmon and steelhead in the Columbia basin by adopting operations and configuration changes for the FCRPS dams that reduce adverse effects to the species migrating through the FCRPS while, at the same time, implementing habitat restoration actions in spawning and rearing habitat in upstream Columbia River tributaries and in migration and rearing habitat in the River's estuary downstream.

## Counties

The Colville National Forest (CNF) lies in three counties: Ferry, Pend Oreille, and Stevens Counties. Okanogan County borders the west side of the CNF.

County comprehensive plans can be used as a source of information on the history of land use within the region, the patterns of development, desired conditions, and current county land use policies. County governments hold no legal authority over independent jurisdictions such as Federal and state lands, incorporated cities and towns or American Indian tribal reservations.

County land use within the planning area ranges from traditional uses such as farming and ranching in rural areas to denser concentrations of residential, industrial, and commercial uses in and around more urban areas (e.g., Colville, Kettle Falls, Chewelah, Republic, Metaline Falls, Newport). One of the common themes is how, and whether, private owners and public land managers can manage the competing priorities of resource conservation and economic development—in particular, how to cope with the growing demands for housing and recreation while ensuring preservation of a shrinking natural resource base that contributes to Washington's highly valued "rural character."

Each of the county plans has been adopted as authorized and required by the Washington State Growth Management Act. The Growth Management Act was enacted by the State Legislature in an effort to protect natural resource lands and environmentally sensitive areas from the adverse effects of suburban sprawl by directing new growth and development to urban areas where necessary public services exist or can reasonably be provided. Five of the fourteen goals in the Act tied to the national forest are:

1. Natural Resource Industries. Maintain and enhance natural resource-based industries, including productive timber, agricultural, and fisheries industries. Encourage the conservation of productive forest lands and productive agricultural lands, and discourage incompatible uses.
2. Open Space and Recreation. Retain open space, enhance recreational opportunities, conserve fish and wildlife habitat, increase access to natural resource lands and water, and develop parks and recreation facilities.
3. Environment. Protect the environment and enhance the state's high quality of life, including air and water quality, and the availability of water.
4. Historic Preservation. Identify and encourage the preservation of lands, sites, and structures that have historical or archaeological significance.
5. Shoreline Master Plans. The shorelines of the State are among the most valuable and fragile of its natural resources and that there is great concern throughout the State relating

26440 to their utilization, protection ,restoration and preservation. It is policy to provide for the  
26441 management of the shorelines by planning for and fostering all reasonable and  
26442 appropriate uses.

26443 Each county plan was reviewed in its entirety. The following are excerpts from the four county  
26444 plans Comprehensive Plan Elements that were relevant to the Forest Plan revision process. At the  
26445 end of each County Plan review is a summary including (1) Assessment of interrelated impacts,  
26446 (2) Determination of how to deal with impacts identified, and (3) Conflicts with Forest Service  
26447 planning and consideration of alternatives.

26448 Although review of the counties' land use plans does not reveal any direct conflicts with the  
26449 revised forest plan (see pages 786–793), the Colville National Forest acknowledges county  
26450 representatives perceive issues regarding economic effects related to expected timber outputs,  
26451 motorized access, and recommended wilderness. There is disagreement as to whether the revised  
26452 plan strikes the correct balance between ecological protection and local economic need.

### 26453 Ferry County

26454 The county land use plan describes local government goals and objectives for land management  
26455 and provides opportunities for coordination between the Forest Service and the county. The  
26456 review is summarized below and describes how the proposed plan contributes to the county plan  
26457 goals and objectives.

26458 The over-arching theme of the comprehensive county plan's (2013) vision statement is that  
26459 "Ferry County would like to preserve its character and identity." Ferry County offers a rural  
26460 character of natural beauty and abundance. This includes values such as independence, privacy,  
26461 and personal freedom that attract many seeking both permanent residence and seasonal refuge. A  
26462 public opinion survey done by the Ferry County Planning Department in 1993 revealed that most  
26463 residents of the county would like to see a "focus on agriculture, forestry, and mining"; desire the  
26464 county to "look the way it did 20 years ago"; and have chosen to live in or own property in the  
26465 county "because it is beautiful and pristine".

26466 Ferry County shares its northern border with Canada and its eastern boundary with the Columbia  
26467 River. The south half of the county falls within the boundaries of the Confederated Tribes of the  
26468 Colville Reservation and the north half is largely occupied by the Colville National Forest,  
26469 leaving approximately 16 percent of land within the county's boundaries under private ownership.  
26470 Approximately 43 percent is covered by the Confederated Tribes of the Colville Reservation, and  
26471 approximately 38 percent is in public ownership. There are eight incorporated communities in the  
26472 county with Republic being the largest city and county seat.

26473 The county goals tied to the national forest include:

#### 26474 6.2.2 Land Use & Rural.

26475 Goal L2 - Preserve agricultural lands of long term commercial significance.

26476 Goal L3 - Preserve natural resources throughout the county and offer special protection to  
26477 areas designated as critical areas, or environmentally sensitive areas.

#### 26478 6.2.3 Transportation

26479 GOAL T1 - Provide safe and convenient utilization of motorized and non-motorized  
26480 vehicles and equipment by the residents, industries, tourists, and recreationalists.

26481 6.2.7 Heritage

26482 Goal HE1 - Promote protection of the heritage, customs and cultures of the people of  
26483 Ferry County.

26484 Goal HE2 - Support multiple use on public lands. Require federal and state agencies to  
26485 abide by existing laws which instruct them to conduct joint planning with the county for  
26486 proposals on federal and state lands within the county.

26487 Goal HE3 - To avoid the loss of archaeological and historic information.

26488 6.2.8 Economic Development

26489 Goal E1 - Increase job opportunities and broaden the economic base in Ferry County  
26490 through encouragement of industry that is compatible with other land uses.

26491 Goal E4 - Recreation and tourism are an integral part of the economy of Ferry County.  
26492 The goal for recreational land is to encourage and accommodate as many diverse  
26493 recreational activities and areas as possible that are compatible with other land uses.

26494 The Ferry County Plan identifies the following considerations as part of the Land Use and Rural  
26495 Element:

26496 **7.4 Critical Areas** - The State of Washington has defined “critical areas” to include the following  
26497 areas and eco-systems: (a) Wetlands; (b) areas with a critical recharging effect on aquifers used  
26498 for potable water; (c) fish and wildlife habitat conservation areas; (d) frequently flooded areas;  
26499 and (e) geologically hazardous areas. Include best available science in developing policies.

26500 **7.4.3 Wetlands** - The County’s goal is to protect wetlands with a no net loss of wetland  
26501 area or function; to ensure continuation of their natural functions; to encourage  
26502 conservation rather than replacement of wetlands in the best economic interest of  
26503 landowners and residents.

26504 **7.4.15 Fish and Wildlife habitat conservation areas** - Ferry County has a very  
26505 high proportion of federal, state and other publicly and tribally owned land.  
26506 These lands are generally managed for the conservation of fish and wildlife  
26507 habitat. Consequently, one of Ferry County’s approaches to protecting all fish  
26508 and wildlife habitat types is to depend on the management of these lands by the  
26509 responsible agency.

26510 **7.4.29 Natural Resource goal** - Maintain and enhance natural resource-based  
26511 industries in the county and provide for the stewardship and productive use of  
26512 agricultural, forest and mineral resource lands of long-term commercial  
26513 significance.

26514 **7.4.35 Forest and Soils** - Ferry County strives to preserve and protect Forest  
26515 Lands from activities that would adversely affect the primary use of forest land  
26516 for commercial forest management. Also, the County wants to minimize the loss  
26517 of Forest Land acreage, functions, and values through a combination of land use  
26518 and development regulation and non-regulatory means such as public education,  
26519 technical assistance to land owners and tax incentives. The County will  
26520 encourage and assist the restoration and enhancement of degraded forest lands.

26521 Regarding Timber Land the plan states, “Because of the U.S. Forest Service reorganization, many  
26522 timber sales have been held up or appealed by environmental groups. The result of this has either  
26523 caused the price of lumber to increase, changed methods of forest practices, or caused operators  
26524 to focus on logging private timber lands in order to maintain a stable economy. Logging has  
26525 basically shifted from the 560,000 acres of public owned timber land to the remaining 140,000  
26526 acres of privately owned timber land. This increased activity will only last for a finite period.  
26527 Either the logging operator will be forced to shut down, or the timber economy will have to  
26528 change to meet the demands for lumber and new construction.”

26529 The Ferry County plan describes both the custom and culture of the county as being linked to  
26530 traditional land use practices such as livestock grazing, timber harvesting, mining, and hunting.  
26531 The county’s comprehensive plan (Proposed Plan in their Environmental Impact Statement)  
26532 establishes policies to preserve natural resources throughout the county and advocates for  
26533 providing forest-related jobs for the local economy.

#### 26534 *Summary*

#### 26535 **CNF Assessment of Interrelated Impacts**

26536 Ferry County is one of three counties within the CNF. The inclusion of this county and its  
26537 Comprehensive Plan was selected because Ferry County includes National Forest System land  
26538 and has social and economic ties to the Forest.

#### 26539 **Determination of how to deal with Impacts as Identified**

26540 All elements of the above plan were considered while developing alternatives to the CNF Forest  
26541 Plan Revision. The DEIS discloses the social and economic impacts to the county in chapter 3 of  
26542 the DEIS pages 489–503 and 640–673.

#### 26543 **Conflicts with Forest Service Planning – Consideration of Alternatives**

26544 Our review of the Ferry County Comprehensive Plan did not identify any conflicts with the  
26545 revised CNF Forest Plan. The revised CNF Plan aligns with many of the county’s goals including  
26546 support for preservation of natural resources; maintaining a mix of motorized and non-motorized  
26547 recreation opportunities; support for maintaining the county’s rural character, customs, and  
26548 culture of the area; contributes to economic input to the county; and provides protections for  
26549 wetlands, fish and wildlife habitat, vegetation and soils.

#### 26550 **Pend Oreille County**

26551 The county land use plan describes local government goals and objectives for land management  
26552 and provides opportunities for coordination between the Forest Service and the county. The  
26553 review is summarized below and describes how the proposed plan contributes to the county plan  
26554 goals and objectives.

26555 The comprehensive county plan’s (2013) vision for Pend Oreille County is based on a Statement  
26556 of Values: Why We Live Here, where natural resources are conserved and land is used efficiently,  
26557 ensuring that new development is compatible with the surrounding uses, sensitive to the  
26558 surrounding natural areas, and retains the rural character of the community.

26559 Forest Service land makes up approximately 58 percent of the county. Most of the land lies within  
26560 the Colville National Forest but a portion of the Forest Service land is administered by the Idaho  
26561 Panhandle National Forests. Incorporated cities/towns include: Newport, Cusick, Meteline Falls,  
26562 Meteline, and Ione.

26563 The county goals tied to the national forest include:

26564 2.3 Land Use Goals

26565 Land Use Goal # 2: Maintain the rural character of Pend Oreille County, including: forest  
26566 lands, agricultural lands, mining and natural resource based industries, home-based  
26567 businesses, and recreational properties.

26568 Land Use Goal # 3: Protect the traditional rural ways of making a living farming and  
26569 ranching, timber harvesting, and mining-from conflict with rural residential development.

26570 Land Use Goal #6: Support new development that is consistent with a realistic  
26571 assessment of the availability of water and that does not adversely affect the rights of  
26572 existing water users.

26573 Land Use Goal #8: Protect environmentally sensitive areas to reduce cumulative adverse  
26574 environmental impacts to water availability, water quality, wetlands, aquatic and wildlife  
26575 habitat conservation areas, frequently flooded areas, and geologically hazardous areas.

26576 Land Use Goal #9: Protect groundwater recharge areas and prevent the contamination of  
26577 vulnerable groundwater resources to ensure water quality and quantity for public and  
26578 private uses and critical area function.

26579 3.3 Economic Development Goals

26580 Economic Development Goal #3: Encourage employment opportunities, the retention and  
26581 expansion of existing businesses, and new business development

26582 4.3 Transportation Goals

26583 Transportation Goal #1: Maintain an efficient, safe, and environmentally responsible road  
26584 system that supports the Statement of Values and the Goals of the Comprehensive Plan.

26585 Transportation Goal #3: Consider safety, cost effectiveness, and environmental impacts  
26586 when planning to build new roads.

26587 6.3 Parks and Recreation Goals

26588 Parks and Recreation Goal #5: Support the designation of the North Pend Oreille Scenic Byway  
26589 and the Selkirk Loop, and the development of the Sweet Creek Recreation Area.

- 26590 • Parks and Recreation Policy #11: Pend Oreille County should coordinate and  
26591 collaborate with the U.S. Forest Service and other public resource agencies and  
26592 managers to inventory recreational opportunities and promote the shared use and full  
26593 enjoyment of publicly owned land in the County.

26594 8.3 Essential Public Facilities Goals

26595 Essential Public Facility Goal #2: Provide necessary public facilities and services, in  
26596 places and at levels proportionate to planned development intensity and environmental  
26597 protection. (USFS Landing Strip (Sullivan Lake), Sullivan Lake Ranger Station and  
26598 Newport Ranger Station have been designated by Pend Oreille County as Essential Public  
26599 Facilities).

- 26600 The Pend Oreille County Plan identifies the following as part of the Land Use Element:
- 26601 **2.7 Critical Areas** - critical areas in the County including wetlands, aquifer recharge areas, fish  
26602 and wildlife habitat, conservation areas, frequently flooded areas, and geologically hazardous  
26603 areas.
- 26604 The Pend Oreille County plan describes both the custom and culture of the county as being linked  
26605 to traditional land use practices such as timber harvesting, ranching, farming, and mining. Natural  
26606 Resource products are a strong component of the economy, providing jobs, tax revenue, and  
26607 valuable products and materials for local use and export. Farmlands and forests also provide  
26608 aesthetic, recreational, and environmental benefits to the public while contributing to the diverse  
26609 character of the County. Mining lands provide materials for development and construction  
26610 purposes. The resource land designations are tailored to each of the resources and address the  
26611 guidelines provided by state law.
- 26612 Natural Resource Industries are a key component of economic development in the County. The  
26613 county's comprehensive plan establishes policies to preserve natural resources throughout the  
26614 county and advocates for providing forest-related jobs for the local economy.
- 26615 *Summary*
- 26616 **CNF Assessment of Interrelated Impacts**
- 26617 Pend Oreille County is one of three counties within the CNF. The inclusion of this county and its  
26618 Comprehensive Plan was selected because Pend Oreille County includes National Forest System  
26619 land and has social and economic ties to the Forest.
- 26620 **Determination of how to deal with Impacts as Identified**
- 26621 All elements of the above plan were considered while developing alternatives to the CNF Forest  
26622 Plan Revision. The DEIS discloses the social and economic impacts to the county in chapter 3 of  
26623 the DEIS pages 491–504 and 642–675.
- 26624 **Conflicts with Forest Service Planning – Consideration of Alternatives**
- 26625 Our review of the Pend Oreille County Comprehensive Plan did not identify any conflicts with  
26626 the revised CNF Forest Plan. The revised CNF Plan aligns with many of the county's goals  
26627 including support for maintaining the county's rural character; contributes to economic input to  
26628 the county; protection of sensitive aquatic and terrestrial habitats; considers safety, cost  
26629 effectiveness, and environmental impacts of the transportation system; and addresses recreation  
26630 opportunities.
- 26631 **Stevens County**
- 26632 The county land use plan describes local government goals and objectives for land management  
26633 and provides opportunities for coordination between the Forest Service and the county. The  
26634 review is summarized below and describes how the proposed plan contributes to the county plan  
26635 goals and objectives.
- 26636 The comprehensive county plan's (2008) vision for Stevens County emphasizes healthy  
26637 landscapes where natural resources are conserved and land is used efficiently. Natural resources  
26638 are well managed, healthy, productive and provide a steady, sustainable stream of products for  
26639 economic viability while maintaining and enhancing opportunities for recreation.

- 26640 About 40 percent of the total land area is owned by the federal government, state governments, or  
26641 the Spokane Tribe. Incorporated cities/towns include: Colville, Kettle Falls, Chewelah, Marcus,  
26642 Northport, and Springdale.
- 26643 The county goals tied to the national forest include:
- 26644 2.1 Economic Development Goal
- 26645 ED-7 Include economic development as one of the considerations in the process of land  
26646 use planning, transportation planning, infrastructure planning, and the determination of  
26647 urban growth areas.
- 26648 3.1 Land Use Goals
- 26649 Land Use Goal 1 - Urban and Rural Areas, and Resource Lands: Create distinct urban and  
26650 rural areas, and areas characterized by resource uses within Stevens County. Increase the  
26651 percentage of new growth that occurs at higher densities in designated urban areas, and  
26652 reduce sprawl and maintain the character of rural areas. Establish logical boundaries for  
26653 targeted infill.
- 26654 Land Use Goal 3 - Customs & Culture: Encourage development of a statement of custom  
26655 and culture so that federal and state agencies will be able to ensure that community and  
26656 economic stability are considered by those agencies when they develop and implement  
26657 plans, policies or regulations affecting the use of state and federal lands. Sustainable  
26658 management decisions for public lands shall consider the diversity of customary  
26659 practices, traditions, culture and ways of life found throughout the County and, to the  
26660 extent permitted by applicable law, complies with the County's planning goals and  
26661 policies and development regulations.
- 26662 Land Use Goal 5 - Master Planned Resorts: Allow development of master planned resorts  
26663 which meet the requirements of the Growth Management Act to take advantage of  
26664 Stevens County's natural beauty and enhance the public's access to areas already  
26665 characterized by some degree of recreational use.
- 26666 4.1 Natural Resources Goal
- 26667 Maintain and enhance natural resource-based industries in the county, protect critical  
26668 areas including surface and groundwater resources, and provide for the stewardship and  
26669 productive use of forest, mineral, and agricultural lands.
- 26670 5.1 Rural Goal
- 26671 Protect and enhance the character and quality of rural areas in ways that promote  
26672 traditional rural lifestyles and industries, including timber, agriculture and mining, while  
26673 also allowing for a diversity of uses, densities, and innovative development.
- 26674 7.1 Parks and Recreation Goal
- 26675 Support the retention, enhancement, and development of recreation areas and activities,  
26676 and parks and open space within Stevens County.

26677 8.1 Transportation Goal

26678 Provide an efficient, functional, and environmentally responsible transportation network  
26679 throughout Stevens County by utilizing and maintaining existing infrastructure,  
26680 integrating transportation planning with other elements of the comprehensive plan, and  
26681 coordinating with other federal, state, tribal and local agencies.

26682 The Stevens County plan states “the focus of the Comprehensive Plan is driven in part by the fact  
26683 that the state and federal government manage nearly 40 percent of the land mass of Stevens  
26684 County. Federal and state management of these extensive enclaves intertwines with, and impacts,  
26685 the abilities of private citizens in the county to pursue activities according to the traditional and  
26686 historic customs and culture.” The plan states “federal and state management infuses a never-  
26687 ending stream of regulations, government employees, and out-of-county opinion into the daily  
26688 lives of Stevens County citizens.” This sentiment is found throughout the plan and emphasizes  
26689 close coordination on the development of federal and state land use policies that are responsive to  
26690 the public interest.

26691 The Stevens County plan states “it is the intent of this plan to be a mechanism whereby the  
26692 general public and particularly federal and state managers can recognize, understand, and honor  
26693 the customs, culture, economic viability, social structure and quality of life of the citizens of  
26694 Stevens County. It is a goal of the planning process that federal and state management actions in  
26695 Stevens County would be more cooperative and less confrontational than in the past.”

26696 The plan advocates for resource-based industries and activities such as timber production,  
26697 agriculture, and mining while providing forest-related jobs for the local economy.

26698 *Summary*

26699 **CNF Assessment of Interrelated Impacts**

26700 Stevens County is one of three counties within the CNF. The inclusion of this county and its  
26701 Comprehensive Plan was selected because Stevens County includes National Forest System land  
26702 and has social and economic ties to the Forest.

26703 **Determination of how to deal with Impacts as Identified**

26704 All elements of the above plan were considered while developing alternatives to the CNF Forest  
26705 Plan Revision. The DEIS discloses the social and economic impacts to the county in chapter 3 of  
26706 the DEIS pages 485-499 and 633-668.

26707 **Conflicts with Forest Service Planning – Consideration of Alternatives**

26708 Our review of the Stevens County Comprehensive Plan did not identify any conflicts with the  
26709 revised CNF Forest Plan. The revised CNF Plan aligns with many of the county’s goals including  
26710 providing economic input to the county; support for maintaining rural character, customs, and  
26711 culture of the area; addresses recreation opportunities; considers safety, cost-effectiveness, and  
26712 environmental impacts of the transportation system; and protection of aquatic and terrestrial  
26713 resources.

26714 **Okanogan County**

26715 The county land use plan describes local government goals and objectives for land management  
26716 and provides opportunities for coordination between the Forest Service and the county. The



- 26717 review is summarized below and describes how the proposed plan contributes to the county plan  
26718 goals and objectives.
- 26719 The west side of the Colville NF borders Okanogan County. The comprehensive county plan's  
26720 (2014) vision for Okanogan County emphasizes independence, privacy, and personal freedom for  
26721 its citizens, works to strengthen the local economy, while also putting forth efforts to maintain a  
26722 clean and healthy environment. Okanogan County will provide for the health, safety, and welfare  
26723 of its citizens by promoting intelligent use of all available resources. Okanogan County is the  
26724 largest county in the state of Washington, however only 10 percent of the county is privately  
26725 owned. Approximately 20 percent is covered by the Confederated Tribes of the Colville  
26726 Reservation and National Forest System land (Okanogan-Wenatchee NF) makes up nearly 58  
26727 percent of the county. The county has thirteen incorporated towns with Okanogan being the  
26728 second largest city and the county seat.
- 26729 The county Comprehensive Plan is guided by a series of planning objectives. These objectives  
26730 identify key planning principles and result from a program of actively involving local residents,  
26731 business and property owners, the cities and towns, local service providers, and The Confederated  
26732 Tribes of the Colville Reservation. Land use guides directly tied to the national forest include:
- 26733 Rural Resource/Low Density – within this designated area the following uses are priority  
26734 uses in support of the County's forestry economy:
- 26735 Harvest and processing of forest products.
- 26736 Equipment yards, repair and maintenance operations.
- 26737 Manufacturing that requires proximity to forest products.
- 26738 Home occupations and home-based industries.
- 26739 Residential uses including vacation rental, single family, extended family, and farm  
26740 worker housing, with covenants to assure compatibility with resource activities.
- 26741 The plan advocates for resource-based industries and activities such as agriculture, forestry,  
26742 fishing, mining, and recreation while providing forest-related jobs for the local economy.
- 26743 *Summary*
- 26744 **CNF Assessment of Interrelated Impacts**
- 26745 Okanogan County borders the CNF. The inclusion of this county and its Comprehensive Plan was  
26746 selected because Okanogan County includes National Forest System land and has social and  
26747 economic ties to the Forest.
- 26748 **Determination of how to deal with Impacts as Identified**
- 26749 All elements of the above plan were considered while developing alternatives to the CNF Forest  
26750 Plan Revision.
- 26751 **Conflicts with Forest Service Planning – Consideration of Alternatives**
- 26752 Our review of the Okanogan County Comprehensive Plan did not identify any conflicts with the  
26753 revised CNF Forest Plan.

## Community Wildfire Protection Plans

Four community wildfire protection plans (CWPP) outline goals for at-risk-communities within and around the Colville NF. These plans are:

- “Ferry County Community Wildfire Protection Plan” (Ferry County CWPP Core Team and Northwest Management, Inc., 2006)
- “Pend Oreille County Community Wildfire Protection Plan” (Pend Oreille County, South Pend Oreille Fire & Rescue, Pend Oreille County Fire Districts 2, 4, 5, 6, and 8, the town of Cusick, town of Ione, town of Metaline, town of Metaline Falls, the city of Newport, the Colville NF, and WA DNR, 2011)
- “Stevens County Community Wildfire Protection Plan, Volume II” (Stevens County CWPP Planning Committee and Northwest Management, Inc., 2007)
- “Okanogan County Community Wildfire Protection Plan” (Okanogan County CWPP Committee, Okanogan County Dept. of Emergency Management, WA DNR, and Northwest Management, Inc., 2013)

The primary goal of the plans is for Federal land to return to Condition Class I where wildfire can be incorporated into long-term management practices to sustain forest health. The plans also delineate the wildland-urban interface where human development meets and intermingles with undeveloped wildland or vegetative fuels. The plans are used by Colville NF managers to help prioritize areas for fuel reduction treatments.

## Communities, Towns, and Cities

There are several communities, towns, and cities within or adjacent to the Colville NF. These include Colville, Kettle Falls, Chewelah, Marcus, Northport, Springdale, Republic, Curlew, Metaline Falls, Metaline, Ione, Cusick, Usk, and Newport.

The communities surrounding the Colville NF have a history of involvement with and dependence upon the national forests and natural resource topics in general. Washington has long been dependent upon natural resources for commodity production, clean water, tourism, and aesthetic enjoyment. As a result the public has frequently expressed interest in the use and management of these resources. Some examples are:

- Collaborative Forest Landscape Restoration Program (CFLRP) – The purpose of the Collaborative Forest Landscape Restoration Program is to encourage the collaborative, science-based ecosystem restoration of priority forest landscapes. The plan calls for close coordination with other landowners to encourage collaborative solutions through landscape-scale operations.
- Development of The International Selkirk Scenic Loop - This designated All American Road is one of 31 in the nation. It winds through northeast Washington, north Idaho, and southeast British Columbia. The Loop was formed in 1999 as a non-profit corporation designed to enhance the local economy through the promotion of tourism along its route in Northern Idaho, Northeastern Washington and the East and West Kootenay region of British Columbia. Since its inception, the Loop has drawn the attention of business owners that now make up its membership, as well as travel guides and various publications throughout the US and Canada.

26795 One of the most common concerns of these communities is the risk associated with  
26796 uncharacteristic wildfire and hazardous fuel buildup. This issue has been articulated in the  
26797 community wildfire protection plans (see previous section).

## 26798 **Tribes**

26799 Federally recognized American Indian tribes occupy about 53.5 million acres (7 percent) of land  
26800 in the western states. Two tribal reservations border the Colville NF: The Kalispel Indian  
26801 Reservation and the Confederated Tribes of the Colville Reservation. The Spokane Indian  
26802 Reservation is south of the Colville NF but does not share a direct border with the Forest. These  
26803 tribes are legally considered to be sovereign nations, meaning the Forest Service has a  
26804 government-to-government relationship with the tribes. Tribes that enter into contracts with the  
26805 Federal government do so just as state governments or sovereign nations do.

26806 In addition, the Federal government also holds a special responsibility to consult with tribes over  
26807 management concerns that may affect them. This process is governed by a variety of Federal  
26808 regulations and policies, including the Forest Service Handbook 1509.13, the National  
26809 Environmental Policy Act, the National Indian Forest Resources Management Act, the Tribal  
26810 Forest Protection Act, the Archeological Resources Protection Act, and several presidential  
26811 executive orders.

26812 Government-to-government consultation with the Colville, Kalispel, and Spokane tribal nations  
26813 and staff-to-staff consultation with their resource specialists began early in the forest plan revision  
26814 process and continues. The three tribes are cooperating agencies with the Colville National  
26815 Forest.

26816 Tribes' use of Forest Service land includes free, non-permitted activities such as gathering  
26817 medicinal plants as well as the use of products such as sawtimber. In addition, the Colville NF  
26818 includes traditional cultural places, the locations of which are known only to the tribes.

## 26819 **Confederated Tribes of the Colville Reservation**

26820 The Colville Indian Reservation spans Okanogan and Ferry Counties with a checker board of  
26821 ownership in fee and trust, and shares its northeast border with the Colville NF. The Colville  
26822 Indian Reservation is a self-sufficient entity with their own business enterprises, tribal education  
26823 and health programs, and owns and operates three casinos.

26824 The goals and policies contained within the Confederated Tribes of the Colville Reservation draft  
26825 (2015) Comprehensive Plan are a combination of the goals and objectives taken from several  
26826 documents that include the land use and development plan, Community Economic Development  
26827 Strategy, Shoreline Management Plan, draft Transportation Improvement Plan and Integrated  
26828 Resource Management Plan. The vision for the tribal comprehensive plan is based on goals for  
26829 land use, transportation, housing, economic development, parks and recreation, shoreline  
26830 management, and cultural resources.

## 26831 **Integrated Resource Management Plan**

26832 The Forest has coordinated with the Colville Confederated Tribes on the design and location of  
26833 forest management projects adjacent to Tribal lands. The Integrated Resource Management Plan  
26834 (2000-2014) is currently being updated and provides guidelines for the use and protection of all  
26835 forest resources, and serves as a basis for decision-making. Guidelines include:

- 26836 • Promote the long-term productivity and health of the total forest ecosystem.

26837       • Provide for the maintenance and enhancement of species diversity and thereby promote  
26838       long-term stability of the forest environment.

26839       • Offer protections of resources such as timber, fish, forage, wildlife, water and culture  
26840       sensitive areas while providing recreation and access to these areas.

26841       *Forestry*

26842       Approximately 48 percent of the Colville Indian Reservation is in the commercial forest land use  
26843       category. Although current conditions are at a low point in the cyclical timber market, historically,  
26844       timber harvesting has been a significant economic engine for the Tribe. Under most market  
26845       conditions, the Tribe has about 14 logging contractors plus the Colville Tribal Logging that  
26846       annually harvest approximately 78 million board feet. The contractors employed about 80 to  
26847       100 people and about 40 to 50 truckers transported the timber to the mills. With the closing of the  
26848       mills the annual harvest and number of jobs has dropped significantly, however, production is  
26849       expected to return to historic levels once the market returns.

26850       *Recreation and Wildlife*

26851       The Tribes' Parks & Recreation Plan describes adequately planning for future recreational uses  
26852       within the Colville Reservation that will not have negative impact on the natural environment.  
26853       The Tribes are concerned with the protection of its portion of the 150 mile Lake Roosevelt  
26854       shoreline, adjoining uplands, and wildlife habitat, which lie behind the Grand Coulee Dam.  
26855       Increased tourism has created additional threats to Tribal resources with wildfire danger being the  
26856       primary threat. The Colville Tribal Parks and Recreation Program was able to coordinate efforts  
26857       with the Colville National Forest and the Bureau of Indian Affairs in 1990 for the renovation of  
26858       the 13-Mile Trailhead.

26859       **Shoreline Management Element**

26860       The Colville Tribes have a primary interest in the protection, control, conservation, and utilization  
26861       of the shoreline resources of the Colville Indian Reservation. The Tribes have a strong shoreline  
26862       management program and permit process in place to help regulate and control development in  
26863       sensitive areas and protect resources such as archeological and cultural sites. The Tribes are  
26864       concerned with preserving the more remote areas of the reservation to eliminate over  
26865       development.

26866       *Transportation Element*

26867       The Colville Tribe's transportation department mission is "To provide safe, efficient, and reliable  
26868       transportation and public road access to and within the Colville Indian Reservation and local  
26869       communities for tribal members, visitors, recreationalists, resource users and others while  
26870       contributing to community and economic development, self-determination, and tribal member  
26871       employment."

26872       While there is a limited transit system on the Reservation, there is a need to expand these services  
26873       to meet the current and future need. Many of the BIA system roads are critical for transportation  
26874       of forest products. In a typical year, logging and forest management activities contribute  
26875       approximately 17,600 loads to both forest and system roads. There are two scenic Byways on the  
26876       Colville Reservation; the Grand Coulee Corridor and the Okanogan Trails Scenic Byway.

26877 *Summary*

26878 Members of the planning IDT consulted tribal representatives during development of the revised  
26879 Forest Plan. The forest supervisor met with the Confederated Tribes of the Colville Reservation  
26880 and as a result, specific tribal comments were incorporated in this DEIS and draft Forest Plan.

26881 **Kalispel Tribe of Indians**

26882 The Kalispel Tribe is a self-sufficient entity with their own business enterprises, tribal education  
26883 and health programs, and strong alliances with those outside the tribe. The original Reservation  
26884 was approximately 7 square miles in size and located in Pend Oreille County on the east bank of  
26885 the Pend Oreille River, close to the towns of Usk, WA and Cusick, WA. Since that time almost  
26886 four square miles of Tribal Trust land has been added to the Reservation, including a half square  
26887 mile in the City of Airway Heights. The Tribe holds five and a half additional square miles of  
26888 property throughout northeast Washington and northern Idaho, almost entirely for the  
26889 preservation of forests and other natural resources with a small amount held for limited economic  
26890 development.

26891 The Kalispel Natural Resources Department (KNRD) is responsible for managing the historic  
26892 properties, fisheries, wildlife, water, and other natural resources of the Kalispel Tribe of Indian's  
26893 reservation in Usk, WA and other ceded lands in the lower Clark Fork/Pend Oreille.

26894 The state of Washington recognizes KNRD as a co-manager for the Pend Oreille River watershed  
26895 area. KNRD currently manages the only warm water hatchery in the region. KNRD has a vast  
26896 range of responsibilities that are both regulatory and policy-making. The responsibilities of  
26897 KNRD's two divisions (Fisheries and Water Resources and Wildlife and Terrestrial Resources) are  
26898 interrelated, but each maintains its own unique focus.

26899 The Kalispel Tribe does not have a land management plan. However, the Colville NF recognizes  
26900 that the Kalispel Tribe has special interests and knowledge of traditional cultural uses, cultural  
26901 resources, and properties within the Colville NF. It is the Forest's intent to continue working with  
26902 the Tribe to address those interests. The Forest Service is required to manage the lands under their  
26903 stewardship with full consideration of the Federal trust responsibility and tribal rights and  
26904 interests, particularly reserved rights where they exist. In meeting these responsibilities, the  
26905 agency consults with the tribe whenever proposed policies or management actions may affect  
26906 their interests.

26907 In 1997, the Kalispel Natural Resources Department adopted a Fish and Wildlife Management  
26908 Plan. Following approval by the Kalispel Tribal Council, this document contains the guiding  
26909 principles for the department. In 2005, the Kalispel Tribal Council approved an updated version  
26910 of this plan. Some of the goals and objectives of the plan for fish, water quality, and wildlife  
26911 include:

26912 **Fisheries**

- 26913 • Goal 1: Protect, enhance, and restore native fish populations to maintain stable, viable  
26914 levels, to ensure long term, self-sustaining persistence, and to provide ecological,  
26915 cultural, subsistence, and sociological benefits.
- 26916 ○ Objective 1: Restore bull trout, westslope cutthroat, and mountain whitefish  
26917 populations in Kalispel ceded lands to a level where adult escapement is well  
26918 distributed and they support healthy spawning populations for cultural and  
26919 subsistence purposes.

- 26920                   ○ Objective 2: Reduce competition between brook trout and native fish (e.g.  
26921                   westslope cutthroat trout and bull trout).
- 26922                   ○ Objective 3: Reduce competition between lake trout and bull trout.
- 26923                   ○ Objective 4: Preserve and protect native non-game species above minimum  
26924                   viable population sizes that maintain adaptability and genetic diversity, while  
26925                   minimizing the probability of extinction.
- 26926               • Goal 2: Where native habitats are not available, manage non-native fish species or non-  
26927               native stocks to maximize available habitats to provide a subsistence and recreational  
26928               sport fishing resource. Non-native species are to be managed in a way that maximizes  
26929               available habitat conditions and minimizes negative impacts to native species.
- 26930                   ○ Objective 1: Provide a sport and subsistence fishery for tribal and non-tribal  
26931                   members.
- 26932               • Goal 3: Restore anadromous fish abundance and harvest to historical levels above Chief  
26933               Joseph and Grand Coulee dams.
- 26934                   ○ Objective 1: Re-introduction of anadromous salmon and steelhead runs above  
26935                   Chief Joseph and Grand Coulee dams to a level where adult escapement is well  
26936                   distributed and they support healthy spawning populations for cultural and  
26937                   subsistence purposes.
- 26938               • Goal 4: Enforce all management plans throughout ceded lands
- 26939                   ○ Objective 1: Ensure that fish resources are protected by strictly enforcing  
26940                   management regulations.
- 26941       **Water Quality**
- 26942               • Goal 1: Maintain or enhance water quality in rivers, streams, lakes and other waterbodies  
26943               throughout ceded lands.
- 26944                   ○ Objective 1: Determine water quality impacts from hydroelectric dams  
26945                   throughout ceded lands.
- 26946                   ○ Objective 2: Use all available methods, including river, reservoir, watershed  
26947                   management, modification of hydroelectric operations, and other measures to  
26948                   offset hydroelectric impacts.
- 26949                   ○ Objective 3: Adopt federally certified water quality standards for Reservation  
26950                   waters.
- 26951                   ○ Objective 4: Coordinate with other agencies, landowners, and tribes to implement  
26952                   watershed/water quality management within the Pend Oreille/Clark Fork  
26953                   drainage.
- 26954                   ○ Objective 5: Establish water quality monitoring protocol, and information storage  
26955                   and exchange system for ceded lands.

- 26956                   ○ Objective 6: Evaluate data for opportunities to implement water quality  
26957                   improvements.
- 26958                   ○ Objective 7: Implement water quality improvement opportunities identified by  
26959                   monitoring, and opportunities identified by other means.

26960   **Wildlife, Wetland, Riparian, and Botanical**

- 26961           • Goal 1: Protect, restore, enhance, and sustain populations of wildlife for aesthetic,  
26962           cultural, ecological, and recreational values.
- 26963                   ○ Objective 1: Increase the Selkirk woodland caribou herd to 75 animals or more  
26964                   by 2010, with the intent to exceed ESA de-listing criteria by 2020.
- 26965                   ○ Objective 2: Maintain bald eagle populations at or above present levels.
- 26966                   ○ Objective 3: Restore a self-sustaining population of grizzly bears in the Selkirk  
26967                   Recovery Zone that exceeds the Grizzly Bear Recovery Plan goals.
- 26968                   ○ Objective 4: Restore and maintain viable lynx populations in the subbasin.
- 26969                   ○ Objective 5: Recover mule deer populations to at least 1980 levels in the Lower  
26970                   Pend Oreille and Priest River subbasins.
- 26971                   ○ Objective 6: Maintain and expand Great-blue Heron population levels within the  
26972                   subbasin. Protect existing heronries and secure a minimum of two potential  
26973                   alternative nesting sites near high use feeding locations such as Calispell Lake  
26974                   and the Pend Oreille River by 2010.
- 26975                   ○ Objective 7: Maintain Osprey populations at or above present levels in the Lower  
26976                   Pend Oreille subbasin for the next 25 years. Maintain osprey nest sites on the  
26977                   Pend Oreille River and encourage increased suitable riparian habitat by 2025.
- 26978                   ○ Objective 8: Restore and sustain state and tribal species of special concern,  
26979                   federal candidate species, BLM sensitive species, and USFS indicator and  
26980                   sensitive species, including the following: wolverine, fisher, otter, northern flying  
26981                   squirrel, northern bog lemming, pygmy shrew, Townsend's big-eared bat,  
26982                   Common Loon, Pygmy Nuthatch, Goshawk, Flammulated Owl, Boreal Owl,  
26983                   Black-backed Owl, Great Gray Owl, Northern Pygmy Owl, Three-toed  
26984                   Woodpecker, Upland Sandpiper, northern alligator lizard, ring-necked snake,  
26985                   rough-skinned newt, wood frog, and Coeur d'Alene salamander.
- 26986                   ○ Objective 9: Protect, restore, enhance, and sustain populations of big game  
26987                   species such as black bear, elk, mountain goat, moose, mountain lion, mule deer,  
26988                   and white-tailed deer.
- 26989                   ○ Objective 10: Protect, restore, enhance, and sustain populations of waterfowl,  
26990                   upland birds, and furbearers under traditional levels of recreational and  
26991                   subsistence use.
- 26992                   ○ Objective 11: Maintain or enhance neo-tropical migrant bird populations at or  
26993                   above current levels within present use areas and identify limiting factors for  
26994                   these populations within the subbasin.

- 26995                   ○ Objective 12: Maintain or enhance amphibian and reptiles populations at or  
26996                   above current levels within present use areas and identify limiting factors within  
26997                   the subbasin.
- 26998                   ○ Objective 13: Maintain or enhance invertebrate populations at current levels  
26999                   within present use areas and identify limiting factors for these populations within  
27000                   the subbasin.
- 27001               • Goal 2: Protect, enhance, and restore native wildlife habitat function and performance to  
27002               establish ecological security for native and important non-native wildlife populations.
- 27003                   ○ Objective 1: Restore the diversity, block size, and spatial arrangement of habitat  
27004                   types needed to sustain wildlife populations at ecologically sound levels.
- 27005                   ○ Objective 2: Restore the connectivity of habitat types needed to sustain wildlife  
27006                   populations at the landscape level.
- 27007                   ○ Objective 3: Protect, mitigate, and enhance wildlife habitat losses associated with  
27008                   the construction, inundation, and operation of hydropower and other dams within  
27009                   the Kalispel Ceded Lands.
- 27010                   ○ Objective 4: By 2050, fully mitigate wildlife habitat losses associated with the  
27011                   construction and inundation of Albeni Falls Dam.
- 27012                   ○ Objective 5: Protect and maintain lake and wetland habitats for wildlife at  
27013                   Calispell Lake/Marsh.
- 27014                         ▪ Sub-Objective 5.1: Purchase the lake and/or water management rights by  
27015                         2010 (acquisition, easements, binding long term agreements).
- 27016                   ○ Objective 6: Protect, restore, and enhance natural functions, habitats, and species  
27017                   compositions to benefit the riparian and wetland habitats and associated wildlife  
27018                   for the Pend Oreille River floodplain and Cusick Valley (Calispell, Tacoma, and  
27019                   Trimble Drainages).
- 27020                         ▪ Sub-Objective 6.1: By 2005, acquire lands and/or management rights  
27021                         (tribal, USFWS refuge, Washington DNR, NRCS Wetland Reserve  
27022                         Program easements) on 1,000 ha in order to add to current management  
27023                         blocks.
- 27024                   ○ Objective 7: Protect, restore, and enhance island habitats for wildlife at Everett  
27025                   Island.
- 27026                         ▪ Sub-Objective 7.1: By 2010, acquire management rights to the island  
27027                         through fee-title acquisition, conservation easements, and/or long- term  
27028                         agreements.
- 27029                   ○ Objective 8: Protect and maintain important habitats for wildlife on federal, state,  
27030                   and private lands.
- 27031                         ▪ Sub-Objective 8.1: By 2010, ensure that all forest practices, including  
27032                         road building and maintenance are being implemented by the USFS as  
27033                         specified in the Colville National Forest Plan.



- 27034                   ▪ Sub-Objective 8.2: By 2010, ensure that all forest practices, including  
27035 road building and maintenance are being implemented as specified in the  
27036 Washington DNR Forest Practices Rule.
- 27037                   ▪ Sub-Objective 8.3: By 2010, identify and pursue priority habitat areas for  
27038 acquisition.
- 27039               ○ Objective 9: Protect and enhance native botanical resources in Kalispel ceded  
27040 lands.
- 27041                   ▪ Sub-Objective 9.1: Identify, restore, and enhance native botanical  
27042 resources deemed important to the Tribe.

### 27043 *Summary*

27044 Members of the planning IDT consulted tribal representatives during development of the revised  
27045 Forest Plan. The forest supervisor met with the Kalispel Tribe of Indians and as a result, specific  
27046 tribal comments were incorporated in this DEIS and draft Forest Plan.

### 27047 *Spokane Tribe of Indians*

27048 The Spokane Indian Reservation occupies the southern portion of Stevens County, but does not  
27049 border the Colville NF. The Spokane Indian Reservation is a self-sufficient entity with their own  
27050 business enterprises, tribal education and health programs, and owns and operates one casino and  
27051 resort. The Spokane Tribe's Sustainable Community Master Plan (2014) is the official policy  
27052 document of the Tribe and is intended to be used as a decision-making tool.

### 27053 *Forest Management*

27054 The Tribal Department of Natural Resources is a division of the Spokane Tribal Government. Its  
27055 programs include environmental protection, air quality, water and fish, fisheries, superfund,  
27056 wildlife, hatcheries, lab, realty, preservation, fire management, forest development, fuels  
27057 management, forestry administration, and timber sales. The Integrated Resource Management  
27058 Plan is the overall reservation land use and natural resource planning document. Land Use goals  
27059 include:

- 27060               • LU Goal 1: Implement the Integrated Resource Management Plan and seek alignment  
27061 with the Sustainable Community Master Plan land use goals.
- 27062               • LU Goal 2: Redesign developed areas for sustainable development that insures access to  
27063 one or a combination of the following 1) Healthy Foods; 2) Recreation; 3) Housing, 4)  
27064 Transportation; 5) Economic Development; 6) Cultural Uses, and 7) Utilities.
- 27065               • LU Goal 3: Acquire suitable land for sustainable development that insure access to one or  
27066 a combination of the following 1) Healthy Foods; 2) Recreation; 3) Housing, 4)  
27067 Transportation; 5) Economic Development; 6) Cultural Uses, and 7) Utilities.
- 27068               • LU Goal 4: Clean up polluted lands and water.

### 27069 *Recreation and Wildlife*

27070 Recreation opportunities include camping and water recreation. Areas on the reservation have few  
27071 youth activities that include playgrounds, basketball courts, and baseball fields. The reservation  
27072 has 21 shoreline campgrounds. The master plan goal for the reservation is to create a parks and

27073 recreation department to provide more activities for all age groups. The Integrated Resource  
27074 Management Plan specifies technical descriptions of permitted, conditional, and/or restricted uses  
27075 within these designations to allow for the seasonal natural development of vegetation and wildlife  
27076 habitat.

#### 27077 *Transportation*

27078 There are approximately 417 miles of roadways on the Spokane Indian Reservation. There are  
27079 also about 112 miles of State highways, including State Route 25 on the west side of the  
27080 reservation. State Route 231 follows the eastern border of the reservation and passes through the  
27081 community of Ford and on to Springdale. In 2010, the Spokane Tribe began operation of a public  
27082 transit program known as the Moccasin Express. Roads that serve tribal lands may be owned or  
27083 managed by the tribe, county, Bureau of Indian Affairs, or State. Funded by the BIA, the  
27084 Reservation Transportation Plans are updated on a regular basis. There is a need to expand the  
27085 current public transportation system to serve the reservation community and promote energy  
27086 efficient and environmentally friendly transportation choices.

#### 27087 *Summary*

27088 Members of the planning IDT consulted tribal representatives during development of the revised  
27089 Forest Plan. The forest supervisor met with the Spokane Tribe of Indians and as a result, specific  
27090 tribal comments were incorporated in this DEIS and draft Forest Plan.

### 27091 **Federal**

27092 Other Federal agencies affect the management of the Colville NF, either because they have lands  
27093 that adjoin the forests (e.g., Bureau of Land Management, other national forests), they manage  
27094 features that occur on the national forest (e.g., Federal Highway Administration), or they have  
27095 oversight responsibilities (e.g., U.S. Fish and Wildlife Service).

#### 27096 **Bureau of Land Management**

27097 BLMs Resource Management Plans (RMPs) form the basis for every action and approved use on  
27098 their public lands. The BLM prepares RMPs for areas of public lands, called planning areas,  
27099 which tend to have similar resource characteristics. Planning emphasizes a collaborative  
27100 environment in which local, state, and tribal governments, the public, user groups, and industry  
27101 work with the agency to identify appropriate multiple uses of the public lands. Plans are  
27102 periodically revised as changing conditions and resource demands require.

27103 The BLM in Washington is in the process of revising land management plans on their Spokane  
27104 District. The agencies have exchanged information helpful to both efforts. Bureau of Land  
27105 Management land occurs in scattered parcels across the Colville NF.

#### 27106 **Bureau of Indian Affairs**

27107 Bureau of Indian Affairs is responsible for the administration and management of 55 million  
27108 surface acres and 57 million acres of subsurface minerals estates held in trust by the United States  
27109 for American Indian, Indian tribes, and Alaska Natives. Adjacent to the planning area are three  
27110 reservations, the Colville, Kalispel, and Spokane Reservations. (See section on Tribes for  
27111 additional information).

## **Bureau of Reclamation**

The Federal Columbia River Power System (FCRPS) is comprised of a series of hydropower projects in the Columbia Basin located on the mainstem Columbia River and in several of its major tributaries that provide about one third of the electricity use in the Pacific Northwest. Three “Action Agencies”, the Bureau of Reclamation, US Army Corps of Engineers, and Bonneville Power Administration, manage 14 facilities in the Columbia Basin. These Action Agencies are currently operating under the 2008/2010 FCRPS Biological Opinion issued by NOAA Fisheries (NMFS 2008a) that recommended a “Reasonable and Prudent Alternative” (RPA) for the FCRPS, which was then adopted for implementation. The biological opinion includes hydrosystem, harvest, hatchery, predator control, tributary and estuary habitat, and research, monitoring, and evaluation actions to avoid jeopardy and destruction of critical habitat by improving salmon and steelhead survival ([www.usbr.gov](http://www.usbr.gov)). In litigation challenging the 2008 Biological Opinion, *NWF v. NMFS*, the Court ordered NOAA Fisheries to issue a new or supplemental biological opinion for the FCRPS by 2014 (U.S. District Court 2011). ESA consultation was reinitiated to comply with the court-ordered remand to address concerns raised with the 2008 Opinion. In addition, since the 2008 Biological Opinion was issued, NOAA Fisheries has listed an additional species, resulting in the need to reinitiate consultation on the FCRPS RPA for the new listed species and designated critical habitats.

## **Department of Homeland Security**

The mission of the Department of Homeland Security is to secure our country from terrorist threats and enhance security; secure our borders; enforce our Nation's immigration laws; secure cyberspace; and build resilience to disasters ([www.dhs.gov](http://www.dhs.gov)).

The Colville National Forest's northernmost boundaries are the international boundary with Canada. A 60-foot wide reservation strip, the “Taft Reservation” of May 3, 1912, runs along the border. Activities by the Forest and other federal agencies within the reservation strip are the subject of numerous agreements and understandings between Federal agencies as well as treaties between the United States and Canada. The USFS cooperates with the DHS in border protection with the objectives of preventing illegal entry and illegal export and exit.

A memorandum of understanding between the USDA Forest Service and the Department of Homeland Security Federal Emergency Agency (MOU 42 U.S.C. 5170a and 5170b) provides a general framework of cooperation in responding to, managing and coordinating, and financially accounting for major disasters and emergencies, and for resolving and differences or conflicts regarding this cooperation in an efficient and constructive manner.

## **Federal Highway Administration**

The role of the Federal Highway Administration (FHWA) is to ensure that America's roads and highways are safe and technologically up-to-date. Although most highways are owned by State, local, and tribal governments, FHWA provides financial and technical support (FHWA, 2011). The Federal Lands Highways funding provides dollars for roads and highways within federally owned lands, such as national forests. Division offices work with the State Department of Transportation (see section on Washington State Department of Transportation).

## **U.S. Forest Service**

Two national forests border the Colville NF: the Okanogan-Wenatchee and the Idaho Panhandle National Forests. Each of these forests' management is guided by a land management plan. The Okanogan-Wenatchee National Forest is currently in the process of revising their plan and the

- 27156 Idaho Panhandle National Forests revised their plan in 2015. As forest management changes are  
27157 proposed, the forests coordinate and adjust their management strategies as appropriate.
- 27158 *Okanogan-Wenatchee National Forest*
- 27159 The Okanogan-Wenatchee National Forest is currently in the process of revising their forest plan.  
27160 The Colville plan revision effort included review of the existing forest plans and information  
27161 being developed toward completion of a revised plan.
- 27162 *Idaho Panhandle National Forests*
- 27163 The Idaho Panhandle NF (IPNF) is managed by their forest plan which was finalized in 2015.  
27164 The Colville National Forest coordinates with the IPNF in the management of one  
27165 congressionally designated wilderness area – the Salmo-Priest Wilderness. The Salmo-Priest  
27166 Wilderness totals 41,335 acres, of which approximately 75 percent is managed by the Colville NF  
27167 and 9,900 acres are on the Idaho Panhandle NFs, in the state of Washington. The IPNF and  
27168 Colville share a portion of the Selkirk grizzly bear recovery area and a portion of the Selkirk  
27169 woodland caribou recovery area (for the caribou recovery area, the Colville manages 102,907  
27170 acres or 10 percent of the recovery area and the IPNF manages 252,785 acres or 27 percent of the  
27171 recovery area. The remaining portion is in southern British Columbia, Idaho Department of  
27172 Lands, and private lands).
- 27173 The plan identifies several forestwide goals for topic areas including: vegetation, watershed, soils,  
27174 riparian, aquatic habitat, aquatic species, wildlife, access and recreation, inventoried roadless  
27175 areas, cultural resources, American Indian rights and interests, timber, and social and economic  
27176 systems.
- 27177 The management areas (MA) of the Idaho Panhandle NFs that border the eastern edge of the  
27178 Colville NF are:
- 27179 • Management Area 1a: Wilderness – management emphasis is on natural ecological  
27180 processes (e.g., plant succession) and disturbances (e.g., fire, insects, and disease) being  
27181 the primary forces affecting the composition, structure, and pattern of vegetation. Fire  
27182 plays an increased role as a natural disturbance agent.
  - 27183 • Management Area 5: Backcountry - this MA is relatively large areas, generally without  
27184 roads, and provides a variety of motorized and non-motorized recreation opportunities.  
27185 Trails are the primary improvements constructed and maintained for recreation users. In  
27186 some areas, lookouts, cabins, or other structures are present as well as some evidence of  
27187 management activities.
  - 27188 • Management Area 6: General Forest - this MA consists of relatively large areas with  
27189 roads, trails, and structures, as well as sign of past and ongoing activities designed to  
27190 actively manage the forest vegetation. This MA provides a wide variety of recreation  
27191 opportunities, both motorized and non-motorized. Constructed improvements in this MA  
27192 generally consist of campgrounds, picnic or day use areas, trails, lookouts, and cabins.
- 27193 **U.S. Fish and Wildlife Service**
- 27194 The main role of the U.S. Fish and Wildlife Service's (USFWS) is to administer the Endangered  
27195 Species Act (ESA) (USFWS, 2011). Section 7 (a)(1) of the ESA directs Federal agencies to aid in  
27196 conservation of listed species and section 7 (a)(2) requires that agencies, through consultation  
27197 with the USFWS, ensure that their activities are not likely to jeopardize the continued existence

27198 of listed species or adversely modify designated critical habitat. As projects and activities are  
27199 planned, forest managers consult with the USFWS.

27200 The USFWS also issues national policies to promote the conservation and recovery of listed  
27201 species, including species recovery plans. The USFWS developed a strategic plan to react to  
27202 climate change (USFWS 2010) which establishes a basic framework within which the Service  
27203 will work as part of the larger conservation community to help ensure the sustainability of fish,  
27204 wildlife, plants, and habitats in the face of accelerating climate change.

27205 The USFWS manages the National Wildlife Refuge System. One wildlife refuge borders the  
27206 Colville – the Little Pend Oreille National Wildlife Refuge. The Service plans to manage the  
27207 Refuge through plan components that address restoration, riparian and stream protection and  
27208 enhancement, protection of the primitive roadless character of the 5,520-acre roadless area in the  
27209 southeast corner of the refuge and determine its suitability as a Wilderness Study Area,  
27210 development of an integrated weed management plan, minimizing new weed introduction and  
27211 preventing their establishment and spread, and reducing road density.

## 27212 **State**

### 27213 **Washington State Department of Ecology**

27214 The Department of Ecology (Ecology) is Washington's principal environmental management  
27215 agency and was created in 1970 by the Washington State Legislature. The agency serves as the  
27216 state's environmental regulatory agency in the areas of air quality, hazardous waste and toxics,  
27217 water quality, and soil protection, providing enforcement of state and federal environmental laws  
27218 and shorelands and environmental assistance.

27219 The mission of the department is to protect, preserve and enhance Washington's environment, and  
27220 promote the wise management of the state's air, land, and water for the benefit of current and  
27221 future generations. Goals outlined in the Washington State Department of Ecology 2013-15  
27222 Strategic Plan are to prevent and clean up pollution and support sustainable communities and  
27223 natural resources.

27224 Ecology provides products and services that include environmental permitting, compliance  
27225 assistance, inspections and enforcement, contracts, loans, and grants, environmental monitoring  
27226 and analysis, policy, rule, and technical guidance, and education and outreach.

27227 Objectives stated in the Strategic Plan include, among others, improving air quality, protecting  
27228 wetlands, shorelands and watershed health, improving water quality, monitoring and assessing  
27229 environmental conditions, and managing sustainability of water resources. To sustain limited  
27230 water sources, strategies include building on successful watershed partnerships. Watershed  
27231 restoration strategies include benchmarks and timeframes to restore water to critical basins or  
27232 sources, and to align local, state, and federal funding behind water supply projects with broad  
27233 support.

27234 For climate change, the DOE strategy is to work with key agencies to integrate impacts of climate  
27235 change and adaptation strategies and actions into agency policies, programs, and funding  
27236 programs and to work with the Climate Impacts Group at the University of Washington, the  
27237 Northwest Climate Science Center, and other federal and non-governmental organization to  
27238 ensure research priorities in considering Washington's needs (DOE 2013b).

27239 *Water Resource Inventory Areas (WRIA)*

27240 The Department of Ecology and other state natural resource agencies have divided the state into  
27241 Water Resource Inventory Areas to delineate the state's major watersheds. There are 6 WRIAs  
27242 within the three counties of the Colville National Forest. The Department of Ecology began  
27243 working with the Forest Service on a water quality improvement project (also called a total  
27244 maximum daily load or TMDL) for the Colville National Forest in 2002. The TMDL is only for  
27245 waters in the national forest - not private lands within the boundary. EPA approved the Water  
27246 Quality Improvement Report on August 5, 2005. Ecology and the Forest Service finalized the  
27247 Water Quality Implementation Plan in Oct. 2006, with an addendum in 2013 to address several  
27248 sites that were found to consistently meet the state's fecal coliform standard and no longer need to  
27249 be monitored (DOE 2013a).

27250 *Washington Department of Fish and Wildlife (WDFW)*

27251 The WDFW's mission is to preserve, protect, and perpetuate fish, wildlife, and ecosystems while  
27252 providing sustainable fish and wildlife recreational and commercial opportunities through the  
27253 following goals:

27254           Goal 1: Conserve and protect native fish and wildlife.

27255           Goal 2: Provide sustainable fishing, hunting, and other wildlife-related recreational and  
27256 commercial experiences.

27257           Goal 3: Promote a healthy economy, protect community character, maintain an overall  
27258 high quality of life, and deliver high-quality customer service.

27259           Goal 4: Build an effective and efficient organization by supporting our workforce,  
27260 improving business processes, and investing in technology (WDFW 2015).

27261 The WDFW manages for fish and wildlife on national forest lands.

27262 The Eastern region (Region 1) of the WDFW contains wildlife units that lie adjacent to the  
27263 planning area. The Eastern Region provides habitat for endangered caribou and grizzly bears, elk,  
27264 and bighorn sheep. This is the only region in Washington with significant populations of whitetail  
27265 deer and moose. This region includes two national wildlife refuges and portions of the Colville  
27266 National Forest.

27267 Within Region 1 are wildlife management areas. Each area is guided by a management plan that  
27268 addresses the status of wildlife species and their habitat, habitat restoration, public recreation,  
27269 weed management, and other activities to meet the department's mission of preserving,  
27270 protecting, and perpetuating fish, wildlife and ecosystems. Plans are revised periodically to reflect  
27271 current conditions and the progress of past activities, and to identify new management priorities  
27272 and actions ([http://wdfw.wa.gov/lands/wildlife\\_areas/management\\_plans/](http://wdfw.wa.gov/lands/wildlife_areas/management_plans/)). Wildlife management  
27273 areas adjacent to the Colville National Forest include Le Clerc and Sherman Creek.

27274 WDFW's 2011-2017 Strategic Plan includes initiatives that are based on supporting healthy  
27275 ecosystems by using strategies that benefit whole ecosystems and critical habitats; maximizing  
27276 the impact of limited resources by implementing projects that support healthy ecosystems and  
27277 improve poor habitat conditions with the intent to "keep common species common"; considering  
27278 public values through increasing public involvement in decisions affecting the management and  
27279 stewardship of the state's fish and wildlife resources; and anticipating uncertainty and responding

27280 to climate change by using adaptive management and making changes to its process for  
27281 correcting salmon-blocking culverts.

## 27282 Washington State Department of Natural Resources (DNR)

27283 The DNR manages forest, range, agricultural, aquatic, and commercial lands to provide fish and  
27284 wildlife habitat, water, and public access. It also manages natural area preserves, natural resource  
27285 conservation areas and state lands, many of which lie adjacent to the planning area. The DNR  
27286 works with the National Weather Service to provide fire weather forecasts and fire precaution  
27287 levels for the Forest Service and other agencies. The DNR regulates outdoor burning and  
27288 provides wildfire protection.

27289 Goals stated in the strategic plan (DNR 2010) include improving forest practices rules and  
27290 strengthening implementation and compliance, preserving forest cover and protecting working  
27291 forests and agriculture lands from conversion, developing renewable energy resources on state  
27292 lands, and addressing the challenges of climate change. Of the 6 goals, the following align most  
27293 closely with those of the planning area.

27294 Goal 1. Deliver on promise to manage state lands sustainably: this goal seeks to:

27295 Goal 2. Improve Forest Practices Rules and Strengthen Implementation and Compliance:

27296 Goal 3. Preserve forest cover and protect working forests and agriculture lands from  
27297 conversion.

27298 Goal 5. Develop renewable energy resources on state lands, address the challenges of  
27299 climate change, and create renewable energy jobs.

27300 The DNR implements an active forest health program to respond to forest health crises in eastern  
27301 Washington, with information, education, and assistance, and by forest health treatments on state-  
27302 owned forest lands.

27303 **Natural Areas** - The DNR manages Natural Area Preserves and Natural Resource Conservation  
27304 Areas. These natural areas protect outstanding examples of natural, undisturbed ecosystems, often  
27305 protecting one-of-a-kind features which are unique to the region. They protect unique and  
27306 threatened native ecosystems, and offer educational and research opportunities. Natural Areas  
27307 program priorities are healthy ecosystems, biodiversity, valuing nature and fostering partnerships.

27308 **Washington State DNR 2010 Statewide Assessment and Strategy** -The Washington State  
27309 Department of Natural Resources (DNR) and other state forestry agencies across the nation  
27310 administer an array of federal programs for landowner assistance, forest conservation and  
27311 management, and fire prevention and suppression. Collectively, many of these fall under the  
27312 federal Cooperative Forestry Assistance Act (Title 16 U.S. Code, Chapter 41), and are sometimes  
27313 called U.S. Forest Service “State & Private Forestry” programs. Specifically, these include:

- 27314 • Private Land Fuels Management & Community Protection (multiple programs)
- 27315 • Cooperative Forest Health Program
- 27316 • Forest Stewardship Program
- 27317 • Urban & Community Forestry Program

27318 • Forest Legacy Program

27319 • State Fire Assistance Program

27320 • Volunteer Fire Assistance Program

27321 The 2014 Farm Bill allowed the governor of each state to request one or more landscape-scale  
27322 areas, such as subwatersheds, in at least one national forest in each state that is experiencing an  
27323 insect and disease epidemic, to be designated as an insect and disease treatment area. With input  
27324 from individual National Forests in Washington, Governor Inslee requested several treatment  
27325 areas throughout Washington State, and on March 6, 2015, Forest Service Chief Thomas Tidwell  
27326 approved over 700,000 acres to be designated as insect and disease treatment areas under Section  
27327 602 of the Farm Bill. This designation included 426,513 acres on the Colville National Forest  
27328 (roughly 40% of the Forest). This designation allows the use of a categorical exclusion to  
27329 expedite analysis and reduce the insect and disease threat within these insect and disease  
27330 treatment areas.

27331 Washington State Department of Transportation

27332 <http://www.wsdot.wa.gov/about/>

27333 The WSDOT is responsible for planning, building, and operating a state highway system and  
27334 maintaining bridges with the goal of preserving environmental quality by providing stormwater  
27335 treatment, construction site erosion control, fish passage barrier removal, wetland replacement,  
27336 air pollution control, and adaptation to climate change.

27337 A memorandum of understanding (Forest Service 2013) between the USDA Forest Service,  
27338 Pacific Northwest Region and the WSDOT documents the steps necessary to coordinate  
27339 transportation activities involving highways on National Forest System land to ensure the public's  
27340 safe access over these highways.

27341 *Scenic Byways*

27342 The US Forest Service has been an active and ongoing partner at the national, state and  
27343 community levels, as well as through the management of its own National Forest Scenic Byway  
27344 program. In Washington, individual national forests connect with close to one-third of the  
27345 designated Scenic and Recreation Highways. Through the FHWA-funded Forest Highway  
27346 Program, the USFS has contributed about \$1 million per year over the last decade to highway  
27347 enhancement projects in Washington, most connected with the scenic and recreation highways  
27348 (Washington State Scenic and Recreational Highways Strategic Plan 2010-2030).

27349 The following are National Forest Scenic Byways designated by the Colville National Forest:  
27350 North Pend Oreille Scenic Byway, and Sherman Pass Scenic Byway. Each of these is managed  
27351 through their individual corridor management plan (Washington State Department of  
27352 Transportation) and through the Forest's land and resource management plan.

27353 Washington State Parks and Recreation Commission

27354 "The Washington State Parks and Recreation Commission acquires, operates, enhances and  
27355 protects a diverse system of recreational, cultural, historical and natural sites. The Commission  
27356 fosters outdoor recreation and education statewide to provide enjoyment and enrichment for all,  
27357 and a valued legacy to future generations" (Washington State Parks and Recreation Commission  
27358 2009).



27359 The strategic plan states that the Commission has the broad responsibility to manage developed  
27360 parks and recreation areas along with trails, ocean beach, marine parks, watercraft launches, and  
27361 historic buildings and areas. The State Parks has worked with the Forest Service to complete trail  
27362 linkages, design and construct signs and kiosks for information and interpretation.

## 27363 **Other Landowners**

27364 The Colville NF border and surrounds other ownerships besides those listed above. There is no  
27365 known inventory of these landowner activities and potential impacts to the forests.

## 27366 **Conclusion**

27367 As identified above, other landowners and land policies have the potential to impact the Colville  
27368 NF and vice-versa. In the development of the land management plan, the goals and policies of  
27369 those other plans have been taken into account. The Interdisciplinary Team found the revised  
27370 forest plan and the management plans and policy goals of other Federal agencies, State and local  
27371 governments, and American Indian tribes to be in alignment in several areas. Most notably, we  
27372 appreciate the common objectives included in each plan that was reviewed to encourage  
27373 conservation of forest lands, protect natural resources, and offer special protection to areas  
27374 designated as critical or environmentally sensitive. Other plan goals well-aligned with the revised  
27375 forest plan include the intergovernmental coordination goals to:

- 27376 • Maintain the rural character of the area including forest and agricultural lands;
- 27377 • Protect fish and wildlife resources;
- 27378 • Manage, protect, enhance, and conserve water resources;
- 27379 • Protect and enhance the quality and quantity of surface and ground water resources;
- 27380 • Protect and enhance wetlands and shorelines;
- 27381 • Provide a safe, efficient, functional, and environmentally responsible transportation  
27382 network, including motorized and non-motorized vehicles;
- 27383 • Promote protection of the heritage, customs, and cultures of the local area;
- 27384 • Support multiple uses on public lands;
- 27385 • Encourage natural resource based industries that are compatible with other land uses, and  
27386 promote forest-related jobs for the local economy;
- 27387 • Encourage and accommodate as many diverse recreational activities and areas as possible  
27388 that are compatible with other land uses; and
- 27389 • Continued coordination with other federal, state, tribal, and local agencies for conducting  
27390 joint planning efforts for proposals on federal and state lands.

27391 Table B- 2 identifies some of the land use goals from other plans and how they align with the  
27392 CNF proposed plan. Also identified are some potential impacts and how the proposed plan deals  
27393 with those impacts. Table B- 3 identifies potential activities on adjacent lands that may impact  
27394 forest management. Impacts of actions on adjacent lands is analyzed in the cumulative

27395 environmental consequences section of chapter 3 in the DEIS. No major conflicts with Forest  
 27396 Service planning have been identified at this time.

27397 **Table B- 2. Land Use Goals and Potential Impacts to Forest Management, and their relationship to**  
 27398 **the Proposed Plan**

Land Use Goals/Potential Impacts/Issues	How the Proposed Plan Addresses
The land allocations (especially recommended wilderness) have the potential to impact economic opportunities within the three adjacent counties	The revised plan maintains opportunities for resource management (e.g., timber, grazing) and recreational use (mechanized and non-mechanized) which would continue economic input to local communities.
Retention of areas as Backcountry to allow mechanical use to continue	The draft plan includes proposals for both motorized and non-motorized backcountry areas to accommodate a variety of recreational uses.
Preserve agricultural lands of long-term commercial significance	The revised plan would not alter any uses on non-National Forest system lands.
Preserve natural resources and offer special protection to areas designated as critical areas, or environmentally sensitive areas	<p>The Forest contains recovery area and proposed critical habitat for the last remaining herd of woodland caribou in the continental U.S. The Forest does not contain designated critical habitat for Canada lynx but follows current science direction for managing Canada lynx habitat. Portions of streams on the Forest have been designated as critical habitat for the recovery of bull trout. The Washington portion of the Selkirk Grizzly Bear Recovery Area is included within the northeastern part of the Colville National Forest. The Forest provides habitat for four fish species, 38 plant species, and 27 wildlife species considered sensitive by the U.S. Forest Service. See appendix D of the DEIS.</p> <p>Management for adequate browse and forage for deer and elk summer and winter ranges is incorporated as part of the analysis. Special and unique habitats will be managed to support threatened, endangered, and sensitive plant species populations and contribute to high quality suitable habitat for these species. Degraded or diminished special and unique habitats would be restored within their natural range of variation.</p> <p>The draft plan provides objectives, standards, and guidelines to protect habitat for federally listed species and species of interest to the public (such as big game).</p>
Protect environmentally sensitive areas to reduce cumulative adverse environmental impacts to water availability, water quality, wetlands, aquatic and wildlife habitat conservation areas, frequently flooded areas, and geologically hazardous areas	Draft plan objectives, standards & guidelines are designed so National Forest System lands contribute to uninterrupted physical and biological processes within and between watersheds. Floodplains, groundwater-dependent systems, upslope areas, headwater tributaries, and intact habitat refugia provide vertical, horizontal, and drainage network connections. These network connections provide chemically and physically unobstructed routes to areas critical for fulfilling life history requirements of aquatic, riparian-dependent, and many terrestrial species of plants and animals.
Offer protections of resources such as timber, fish, forage, wildlife, water and culture sensitive areas while providing recreation and access to these areas	<p>The draft plan provides a spectrum of high quality, nature-based outdoor recreational settings and opportunities varying from primitive to developed where visitors can experience the biological, geological, scenic, and cultural resources of the Forest, with an emphasis on the natural appearing character of the forest.</p> <p>Management restrictions on recreational development occur for the purpose of resource protection and recreation management.</p>

Land Use Goals/Potential Impacts/Issues	How the Proposed Plan Addresses
Call for multiple-use of the forest	The overall goal of managing National Forest System lands is to sustain the multiple uses of its resources in perpetuity while maintaining the long-term productivity of the land. The proposed plan carries out that goal.
Improve forest health and promote long-term productivity and restoration of ecosystems	The desired conditions describe a healthy, sustainable forest and the objectives identify actions that would help restore ecosystems.
Maintain a healthy, sustainable forest that provides raw materials	Desired conditions describe a variety of renewable forest products of social, spiritual, and economic value are reasonably available to the public. Special forest products and merchantable timber products are ecosystem services that contribute to economic sustainability, social desires, or cultural needs.
Provide an efficient, functional, and environmentally responsible transportation network by utilizing and maintaining existing infrastructure, integrating transportation planning with other elements of local plans, and coordinating with other federal, state, tribal and local agencies.	<p>The draft plan provides for an access system of authorized roads, bridges, trails, and docks that are safe, affordable, and environmentally sound, responds to administrative and public needs to the extent practicable, meets obligations to public and private cooperators, and is efficient to manage.</p> <p>Management restrictions on transportation system development occur for the purpose of resource protection.</p> <p>Throughout the proposed plan, there is a management emphasis on collaboration and cooperation with tribes, state, federal, and local governments, other agencies, and stakeholders.</p>
Provide safe and convenient utilization of motorized and non-motorized vehicles and equipment by residents, industries, tourists, and recreationalists.	The draft plan continues to provide both motorized and non-motorized areas to accommodate a variety of forest uses.
Consider local concerns; collaborate and conduct joint planning for proposals on federal and state lands	Throughout the proposed plan, there is a management emphasis on collaboration and cooperation with local governments and stakeholders.
Coordinate and collaborate with the U.S. Forest Service and other public resource agencies and managers to inventory recreational opportunities and promote the shared use and full enjoyment of publicly owned land	<p>Throughout the proposed plan, there is a management emphasis on collaboration and cooperation with state and federal governments and other agencies.</p> <p>The draft plan provides a spectrum of high quality, nature-based outdoor recreational settings and opportunities varying from primitive to developed where visitors can experience the biological, geological, scenic, and cultural resources of the Forest, with an emphasis on the natural appearing character of the forest.</p>
Support and protection for heritage, local traditional customs and culture	<p>The uses of livestock grazing, timber harvesting, mining, and hunting continue to be allowed in the proposed plan. The proposed plan recognizes that many local residents have traditional ties, such as forest product collection, hunting, holiday celebrations, and annual picnics. Loggers and ranchers continue to be an important part of the forests' history and their traditional uses remain an important part of the cultural landscape.</p> <p>Rangelands and forestlands provide forage for use by both livestock and wildlife. Grazing continues to be a viable use of vegetation on the Forest. Availability of lands identified as suited for this use contributes to providing animal products, economic diversity, and open space, and promotes cultural values, and a traditional life style.</p>

Land Use Goals/Potential Impacts/Issues	How the Proposed Plan Addresses
Avoid the loss of archaeological and historic information	Desired conditions describe protection of heritage resources on the national forest, including known Native American sacred sites and traditional cultural properties. Sites are preserved, protected, and/or restored per applicable law, regulation, executive order, and directives. As appropriate, eligible and historically significant heritage properties are listed on the National Register of Historic Places. The Forest's priority heritage assets are protected and preserved per applicable law, regulation, executive order, and directives. Opportunities to connect people with the heritage of the land are provided.
Community growth demand	The proposed plan identifies a management emphasis to work with local communities to understand their community expansion needs and retain access to NFS lands.
Increase job opportunities through encouragement of industry that is compatible with other land uses	The draft plan provides a sustainable level of timber products for current and future generations. Production of timber from National Forest System lands contributes to an economically viable forest products industry.
Continued support for timber industry and forest-related jobs for the local economy	Desired conditions describe a variety of renewable forest products of social, spiritual and economic value that are reasonably available to the public. Special forest products and merchantable timber products are ecosystem services that contribute to economic sustainability, social desires, or cultural needs.  The draft plan provides a sustainable level of timber products for current and future generations. Production of timber from National Forest System lands contributes to an economically viable forest products industry.  Timber production and tree cutting continue and contribute to the local and regional economy. See the "Economic Conditions" section of the DEIS.
Maintain and enhance natural resource-based industries, and provide for the stewardship and productive use of forest, mineral, and agricultural lands	The draft plan provides a sustainable level of timber products for current and future generations. Production of timber from National Forest System lands contributes to an economically viable forest products industry.  The desired conditions describe a healthy, sustainable forest and the objectives identify actions that would help restore ecosystems.
Encourage development of a statement of custom and culture so that federal and state agencies will be able to ensure that community and economic stability are considered by those agencies when they develop and implement plans, policies or regulations affecting the use of state and federal lands	Desired conditions describe a variety of renewable forest products of social, spiritual and economic value that are reasonably available to the public. Special forest products and merchantable timber products are ecosystem services that contribute to economic sustainability, social desires, or cultural needs.

Land Use Goals/Potential Impacts/Issues	How the Proposed Plan Addresses
Minimize the loss of forest land acreage, functions, and values through a combination of land use and development regulation and non-regulatory means such as public education, technical assistance to land owners	<p>The desired condition in the draft plan describes a broad range of people in rural, urban, and underserved populations understanding the complexities of managing natural resources for the full range of benefits associated with the multiple use mission of the Forest Service.</p> <p>A multi-faceted outreach strategy aims to help the public understand: the natural and cultural history of the national forest; important themes of ecological processes, including fish, plant, and wildlife species habitat needs and the importance of disturbance processes; the human benefits of the national forest system, including recreational and commodity values; forest regulations and resource protection practices; safety practices; potential impacts of human activity on resources, and how to participate effectively in national forest decision-making activities.</p>
Encourage and accommodate as many diverse recreational activities and areas as possible that are compatible with other land uses	<p>The draft plan provides a spectrum of high quality, nature-based outdoor recreational settings and opportunities varying from primitive to developed where visitors can experience the biological, geological, scenic, and cultural resources of the Forest, with an emphasis on the natural appearing character of the forest.</p>
Allow development of master planned resorts which meet the requirements of the Growth Management Act to take advantage of natural beauty and enhance the public's access to areas already characterized by some degree of recreational use.	<p>Draft plan objectives, standards &amp; guidelines are designed so special use authorizations allow the private sector to develop, maintain, and operate highly developed winter recreation facilities where appropriate. Ski areas are able to provide parking, adequate room for skiers on the slopes, and facilities offering restrooms, warmth, and food.</p> <p>Other outdoor recreation activities permitted by law and compatible in this national forest setting may be authorized to increase the recreational opportunities provided on the forest and contribute monetarily to local economies.</p> <p>Ski areas generally have a mix of native vegetation and man-made grassy openings intermixed with forested or partially forested areas and rocky outcroppings. Forested areas may act as cover for wildlife species, or habitat for plant species, contributing to the composition, structure, and pattern typical of the vegetative systems, but are not required to be within their natural range of variability or to meet forest-wide habitat requirements</p>
Continued support for recreation industry and opportunities for off-highway vehicles	<p>The draft plan continues to allow these activities.</p> <p>The draft plan will designate 45 miles of motorized mixed use roads across the Forest that would connect with existing motorized mixed use roads identified on the Motor Vehicle Use Map to create loop riding opportunities, connect camping areas, or connect communities with the Forest, within 15 years of plan implementation.</p>

Land Use Goals/Potential Impacts/Issues	How the Proposed Plan Addresses
Growing demand for recreation (e.g., hiking trails, designated OHV routes )	<p>The draft plan offers a spectrum of recreation settings and opportunities varying from primitive to developed, with an emphasis on the natural-appearing character of the forest. A range of dispersed recreation activities such as camping, backcountry skiing, boating, mushroom and berry picking, hunting, and fishing are available. These opportunities are managed to minimize impacts to resources, are within budget limitations, and may provide economic benefits to nearby communities.</p> <p>The access system of authorized roads, bridges, trails, and docks is safe, affordable, and environmentally sound, responds to administrative and public needs to the extent practicable, meets obligations to public and private cooperators, and is efficient to manage. The system provides public and administrative access where suitable and supports Forest management objectives. Road and trail rights-of-way to access National Forest System lands address public needs and facilitate planned resource activities. All Forest system roads and trails have legal access for crossing non-National Forest System lands.</p> <p>A variety of maintained system trails compliments local community trail systems while minimizing user conflicts. Trails provide a range of difficulty levels for the various user types, and are located in diverse ecological, geological, and scenic settings. Although the proposed plan does not identify specific new developments, it does allow for it, if needed. The proposed plan focuses on maintaining existing recreation opportunities and improving their quality.</p>
Protect groundwater recharge areas and prevent the contamination of vulnerable groundwater resources to ensure water quality and quantity for public and private uses and critical area function	<p>Draft plan objectives, standards &amp; guidelines are designed so National Forest System lands contribute to the timing, variability, and water table elevation in wetlands, seeps, springs, and other groundwater-dependent systems. These features are within or moving toward proper functioning condition.</p> <p>National Forest system lands in ground and surface source water protection areas provide water that meets or exceeds state water quality standards for drinking water with appropriate treatment</p>
Clean up polluted lands and water	<p>Draft plan objectives, standards &amp; guidelines are designed so National Forest System lands contribute to the physical integrity of the aquatic system and riparian habitat, including banks and floodplains.</p>
Provide necessary public facilities and services, in places and at levels proportionate to planned development intensity and environmental protection	<p>Draft plan standards &amp; guidelines are designed so all occupancy and use of National Forest System lands is properly authorized. Facilities and improvements that are not owned, managed or maintained by the Forest Service are either removed or authorized through the appropriate special use authorization when they meet forest plan direction and are feasible within resource constraints (examples include roads, utility lines, or communication sites).</p> <p>Utility corridors and communication sites provide for the movement and distribution of electricity, petroleum products, water, other lineal special uses, and communication signals across National Forest System lands.</p>
Provide for the maintenance and enhancement of species diversity and thereby promote long-term stability of the forest environment	<p>The draft plan objectives, standards &amp; guidelines are designed so species diversity is enhanced by providing favorable habitat conditions (appropriate mix of cover types and structure stages) and reducing risk factors (primarily managing human activities).</p> <p>Habitat conditions (amount, distribution, and connectivity of habitat) contribute to the recovery of federally listed threatened and endangered species.</p>

Land Use Goals/Potential Impacts/Issues	How the Proposed Plan Addresses
Conserve, preserve, enhance, and restore wildlife, fish, plants, and their habitats	<p>The Forest contains recovery area and proposed critical habitat for the last remaining herd of woodland caribou in the continental U.S. The Forest does not contain designated critical habitat for Canada lynx but follows current science direction for managing Canada lynx habitat. Portions of streams on the Forest have been designated as critical habitat for the recovery of bull trout. The Washington portion of the Selkirk Grizzly Bear Recovery Area is included within the northeastern part of the Colville National Forest. The Forest provides habitat for four fish species, 38 plant species, and 27 wildlife species considered sensitive by the U.S. Forest Service. See appendix D of the DEIS.</p> <p>Management for adequate browse and forage occurs for deer and elk summer and winter ranges is incorporated as part of the analysis.</p> <p>Special and unique habitats will be managed to support threatened, endangered, and sensitive plant species populations and contribute to high quality suitable habitat for these species. Degraded or diminished special and unique habitats would be restored within their natural range of variation.</p> <p>The draft plan provides objectives, standards and guidelines to protect habitat for federally listed species and species of interest to the public (such as big game).</p> <p>National Forest System lands contribute to the recovery of federally threatened and endangered aquatic species and conservation of Regional Forester's sensitive aquatic species. Aquatic habitat supports spawning, rearing, and other key life history requirements</p>
Danger from fire for residents living in a wildland-urban interface	<p>The draft plan objectives, standards &amp; guidelines are designed so fuel treatments continue to reduce surface, ladder, and crown fuels that lower the potential for high-severity wildfires while providing for diversity within the stands. Vegetation has been modified (interrupted) to improve community protection and enhance public and firefighter safety.</p> <p>Fuel treatments are emphasized in wildland urban interface and areas that exhibit the potential for high severity fire behavior that could impact private or other agency lands. A pattern of treatments are established and maintained that are effective in modifying fire behavior as identified in individual community wildfire protection plans.</p> <p>A multi-faceted outreach strategy aims to help the public understand: the natural and cultural history of the national forest; important themes of ecological processes, including fish, plant, and wildlife species habitat needs and the importance of disturbance processes; the human benefits of the national forest system, including recreational and commodity values; forest regulations and resource protection practices; safety practices; potential impacts of human activity on resources, and how to participate effectively in national forest decision-making activities.</p>
Protect private property rights	The proposed plan honors the continuing validity of private, statutory, or pre-existing rights.

Land Use Goals/Potential Impacts/Issues	How the Proposed Plan Addresses
Tribal use and traditional cultural properties	<p>The draft plan recognizes that traditional and cultural use information, as provided by federally recognized tribes, is treated with respect and integrated into natural resource management planning efforts with appropriate sensitivity to the tribe's views regarding information sharing. American Indian values are fully considered in planning proposed actions on the Forest. The Forest maintains sustainable products, uses, values, and services that contribute to the American Indians' way of life and cultural integrity. Access to traditional resources and sacred places is considered in all planning efforts.</p> <p>Tribes are consulted when management activities may impact treaty rights and/or cultural sites and cultural use, according to individual tribal communication plans, Consultation Protocols, or policies.</p>
Minimize impacts from invasive species	<p>Native species and native plant communities are the desired dominant vegetation.</p> <p>Draft plan objectives, standards &amp; guidelines are designed so forest terrestrial and aquatic ecosystems are in an ecological condition that resists introduction, establishment, and spread of invasive plant species. Established invasive plant infestations are not increasing in number or size, occur at low densities, and are reduced or removed. Risk of invasive plant infestations is maintained at a low level due to the effectiveness of prevention actions and the success of restoration efforts.</p>
Threats related to changes in climate	Appendix C of the proposed plan provides information and discussion about climate change and considerations for land management planning

27399



27400 **Table B- 3. Activities on adjacent lands that may impact forest management**

Land exchanges (changes in ownership)	Commercial harvesting and thinning; forest restoration and thinning; removal of overstory trees
Highway improvements	Prescribed fires
Fire suppression	Recreation improvements and new construction
Permitted recreation use (restrictions on types of uses)	Renewable energy development (e.g., wind farms, energy corridors)
Removal of nonnative fish species and restoration of native aquatic species	Continued livestock grazing
Noxious and invasive weed treatments	

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## **Appendix C. Cumulative Effects**

Cumulative effects are those impacts on the environment that result from the incremental effects of an action when it is added to other past, present, and reasonably foreseeable future actions, regardless of which agency or person undertakes them (see 40 CFR 1508.7).

Analysis and disclosure of cumulative effects alerts decision-makers and the public to possible environmental implications of interactions among known and likely management programs and activities. A programmatic FEIS, such as this one, considers large areas that encompass a wide array of environmental interactions, not all of which occur on the national forests. Many of these environmental interactions will be most accurately disclosed as cumulative effects in site-specific environmental analyses; they can neither be confidently predicted nor credibly estimated for inclusion in this document. In such cases, these cumulative impacts are discussed to the extent data and information allow. Wherever possible, cumulative impacts of the alternatives have been identified and estimated, even when the impacts are estimated with limited degrees of certainty.

A program document, such as this one, needs to consider compatibility and conflicts with programs plans and institutional arrangements at national, regional, and state levels that have implications to environmental consequences and influence of successful implementation. The following past, present, and reasonably foreseeable programmatic actions have affected or could affect the various resources in the Colville National Forest (CNF). There is additional discussion of cumulative effects within the various resource area sections of chapter 3 of the DEIS.

### **Existing Forest Plan, as Amended**

The baseline of effects is from the 1988 Land and Resource Management Plan. The effects of this Plan have previously been determined and disclosed in appropriate National Environmental Policy Act (NEPA) documents.

### **Past Policy Decisions**

#### **Forest Service NEPA Procedures**

On July 24, 2008, the Agency issued a procedural rule to guide its implementation of the NEPA (36 CFR 220). While the new rule includes some changes, most of the Agency's NEPA procedures were moved to regulation unchanged. No cumulative effects are expected from these actions because these are intended to be procedural requirements that do not cause effects on the human environment.

#### **2001 Roadless Area Conservation Rule (36 CFR Part 294)**

The revised Plan includes management direction for inventoried roadless areas identified in the 2001 Roadless Area Conservation Rule. On October 21, 2011, the 10th Circuit Court of Appeals reversed the Wyoming District Court and upheld the USDA's 2001 Roadless Rule in *Wyoming v. United States Department of Agriculture*. The decision by the 10th Circuit resolves 10 years of litigation. The ruling confirms that the agency has the authority to manage and protect roadless lands within the National Forest System and that the department complied with all applicable laws in adopting the 2001 Roadless Rule. Under the 2001 Roadless Rule, new road construction and reconstruction are generally prohibited in inventoried roadless areas, and timber harvest is only permitted under a few limited exceptions. It is outside the authority of the revised forest plan to make any changes to boundaries of inventoried roadless areas.

## **The National Travel Management Final Rule**

In November 2005, the Forest Service published a new travel management rule governing motor vehicle use on national forests and grasslands (36 CFR parts 212, 251, 261, and 295 (travel management)). Under the final rule, each national forest or ranger district designated those roads, trails, and areas open to motor vehicle use by class of vehicle and, if appropriate, by time of year. Motor vehicle use off the designated system is prohibited. Designated routes and areas have been identified on a motor vehicle use map (MVUM). Motor vehicle use outside of designated routes and areas are provided for fire, military, emergency, and law enforcement purposes, and for use under Forest Service permit. Valid existing rights are honored. The rule also maintains the status quo for snowmobile use.

The travel management rule has no effect on fire management, forest management, grazing, transportation systems, mineral and energy development, winter recreation, or land acquisition because it does not affect permits or valid existing rights.

As shown in chapters 2 and 3 of the DEIS, alternative B would have the greatest impact on access to NFS lands due to the amount of recommended wilderness proposed.

## **The Roads Policy**

In January 2009, new directives (FSM 7700 and FSH 7709) regarding travel management were put into effect to make them consistent with and to facilitate implementation of the agency's final travel management rule. This direction gives managers a scientific analysis process to inform their decision-making. It directs the agency to maintain a safe, environmentally sound road network that is responsive to public needs and affordable to manage but that calls for unneeded roads to be considered for decommissioning or conversion to other uses, such as trails.

These final directives consolidate direction for travel planning for both NFS roads and NFS trails in Forest Service Manual (FSM) 7710 and Forest Service Handbook (FSH) 7709.55. The final directives rename roads analysis "travel analysis" and streamline some of its procedural requirements. In addition, for purposes of designating roads, trails, and areas for motor vehicle use, the final directives expand the scope of travel analysis to encompass trails and areas being considered for designation.

## **National Fire Plan**

The National Fire Plan (NFP) was developed in August 2000, following a landmark wildland fire season, with the intent of actively responding to severe wildland fires and their impacts on communities while ensuring sufficient firefighting capacity and safety for the future. The NFP addresses five key points: firefighting, rehabilitation, hazardous fuels reduction, community assistance, and accountability (USDA Forest Service and USDI 2000).

The NFP established an intensive, long-term hazardous fuels reduction program in response to the risks posed by heavy fuel loads; the result of decades of fire suppression activities; sustained drought; and increasing insect, disease, and invasive plant infestations. Hazardous fuels treatments are accomplished using a variety of tools, including prescribed fire, wildland fire use, mechanical thinning, timber harvest, herbicides, grazing, or combinations of these and other methods. Treatments are being increasingly focused in the expanding wildland urban interface (WUI) areas.

A discussion of cumulative effects can be found in the DEIS chapter 3.



## **Healthy Forests Initiative**

In August 2002, the President issued Healthy Forests: An Initiative for Wildfire Prevention and Stronger Communities. The intent of the initiative is to better protect people and natural resources by lowering the procedural and process hurdles that impede the reduction of hazardous fuels on public land. The initiative includes:

- Improving procedures for developing and implementing fuels treatment and forest restoration projects in priority forests and rangelands;
- Reducing the number of overlapping environmental reviews by combining project analyses and establishing a process for concurrent project clearance by federal agencies;
- Developing guidance for weighing the short-term risk against the long-term benefits of fuel treatment and restoration projects; and
- Developing guidance to ensure consistent NEPA procedures for fuel treatment activities and restoration activities.

One outcome of the Healthy Forests Initiative was the Healthy Forests Restoration Act of 2003 (HFRA).

A discussion of cumulative effects can be found in the DEIS chapter 3.

## **Healthy Forests Restoration Act of 2003 (P.L. 108-148, HFRA)**

The Healthy Forests Restoration Act, approved by Congress in December 2003, applies to the Forest Service and Bureau of Land Management (BLM). The act contains a variety of provisions to expedite hazardous-fuel reduction and forest-restoration projects on specific types of federal land that are at risk of a wildland fire or insect and disease epidemics. The act helps rural communities, States, Tribes, and landowners restore healthy forest and rangeland conditions, on state, tribal, and private lands.

Even though they do not specify outcomes, the direction set forth in these documents (the NFP and HFRA) was considered in the effects analysis. The analysis evaluates the relative ability to treat hazardous fuels primarily within the WUI and municipal watersheds. The prohibitions and permissions for road construction/reconstruction and timber cutting, sale, or removal influence the ability to treat hazardous fuels.

Timber cutting and associated road-building projections portrayed in the DEIS reflect activities anticipated to be implemented within each of the alternatives, in response to the NFP, Healthy Forests Initiative, and HFRA. A discussion of cumulative effects can be found in the DEIS chapter 3.

## **Woody Biomass Utilization Strategy**

This 2008 strategy describes how Forest Service programs can better coordinate to improve the use of woody biomass in tandem with forest management activities on both federal and private lands. Although the focus is on the use of woody biomass, the primary broader objective is sustaining healthy and resilient forests that will survive an environment of natural disturbances and threats, including climate change. One of four goals of the strategy is facilitating a reliable and predictable supply of biomass. The strategy does not prescribe any specific outcomes.

27660 Each of the alternatives would result in a different level of biomass being available for use,  
27661 commensurate with the levels of tree harvest predicted in table 3-11, in chapter 3 of the DEIS (see  
27662 “Forest Vegetation” section of the DEIS).

### 27663 **Energy Implementation Plan**

27664 The 2001 Forest Service Energy Implementation Plan was written to implement elements of  
27665 Executive Order 13212, Actions to Expedite Energy Related Projects, also called the National  
27666 Energy Plan (USDA Forest Service 2001). The National Energy Plan encourages agencies to  
27667 “...expedite their review of permits and/or take other actions necessary to accelerate the  
27668 completion of such projects, while maintaining safety, public health, and environmental  
27669 protections...”

27670 No priority areas were identified in Washington. The Energy Implementation Plan does not  
27671 prescribe any specific outcome and is not a programmatic decision. It merely identifies actions  
27672 that should be taken to respond to the National Energy Plan.

### 27673 **Energy Policy Act of 2005**

27674 Recognizing the fundamental importance of the delivery of energy supplies to the Nation’s  
27675 economic well-being, Congress passed section 368 of the Energy Policy Act of 2005 to require  
27676 certain federal agencies to designate energy corridors on federal lands in 11 western States,  
27677 including Washington, and to coordinate with each other to create a cooperative, efficient process  
27678 for applicants to apply for rights-of-way in such corridors. Congress stated in section 368 that the  
27679 agencies should incorporate the designated corridors into their respective land use or resource  
27680 management plans. Congress also directed the agencies to conduct environmental reviews that are  
27681 required to designate corridors and add the designated corridors to the plans.

27682 As directed by Congress in section 368 of the Energy Policy Act of 2005, the Forest Service  
27683 participated in preparing a programmatic EIS and issued a ROD (USDA Forest Service 2009)  
27684 designating energy corridors on land it administers for oil, gas, and hydrogen pipelines and  
27685 electricity transmission and distribution facilities in 10 contiguous western States and  
27686 incorporated these designations into affected agency land use plans. Energy corridors not  
27687 addressed in the programmatic analysis would be subject to a separate environmental analysis.

### 27688 **Forest Service Open Space Conservation Strategy**

27689 The Forest Service announced its Open Space Conservation Strategy on December 6, 2007. This  
27690 strategy establishes goals and priority actions to conserve open space across private and public  
27691 land and underscores the importance of the conservation of open space to the mission of the  
27692 Forest Service (USDA Forest Service 2007a).

27693 Each day 6,000 acres of open space are lost in the United States as more people choose to live at  
27694 the urban fringe and in scenic, rural areas. Between 1982 and 2001, approximately 34 million  
27695 acres of open space (an area the size of Illinois) were developed. Considering forestlands  
27696 specifically, more than 10 million acres were converted to houses, buildings, lawns, and  
27697 pavement between 1982 and 1997, and another 26 million acres of forests are projected to be  
27698 developed by 2030 (USDA Forest Service 2007a).

27699 Development of open space affects the Agency’s ability to manage national forests and  
27700 grasslands, as well as the ability to help private landowners and communities manage their land to  
27701 maintain private and public benefits and ecosystem services. At stake is the ability of private and

- 27702 public forests and rangelands to provide clean water, scenic beauty, biodiversity, outdoor  
27703 recreation, and natural resource based jobs, forest products, and carbon sequestration.
- 27704 The Open Space Conservation Strategy establishes four priority actions for the Forest Service,  
27705 which can be broken down into 13 supporting actions:
- 27706 6. Convene partners to identify and protect priority open space.
- 27707     ○ Conduct a rapid science-based assessment of open space change to inform  
27708     priorities;
- 27709     ○ Convene partners and stakeholders to identify regional priority lands; and
- 27710     ○ Protect regional priority lands through partnerships and mechanisms such as land  
27711     acquisition and conservation easements.
- 27712 7. Promote national policies and markets to help private landowners conserve open space.
- 27713     ○ Identify where changes in tax and other federal policies could provide economic  
27714     incentives and remove barriers for open space conservation;
- 27715     ○ Support the development of emerging ecosystem service markets to encourage  
27716     private investments in open space conservation;
- 27717     ○ Encourage natural-resource-based industries to provide economic incentives for  
27718     landowners to retain working lands;
- 27719     ○ Support recreation and tourism uses to generate revenue for landowners and  
27720     communities from open space lands; and
- 27721     ○ Provide and encourage landowner assistance and incentives to help keep working  
27722     lands working.
- 27723 8. Provide resources and tools to help communities expand and connect open space.
- 27724     ○ Provide urban forestry assistance to communities to enhance and restore open  
27725     space within cities, suburbs, and towns; and
- 27726     ○ Develop tools to help communities strategically connect open spaces to build a  
27727     functioning green infrastructure.
- 27728 9. Participate in community growth planning to reduce ecological impacts and wildfire  
27729     risks.
- 27730     ○ Support and participate in local, regional, and transportation planning to conserve  
27731     open space and retain ecosystem benefits;
- 27732     ○ Work with communities to plan for and reduce wildfire risks.
- 27733 All six of the alternatives considered for the Plan revision are consistent with the actions  
27734 identified in the Open Space Conservation Strategy. The management approaches of the  
27735 alternatives include different combinations of active and passive land management.

## **Recreation Facility Analysis**

National forests use the Recreation Facility Analysis to provide the best recreation opportunities in the right places. It is an analysis process (USDA Forest Service 2007b); used nationally, to assist forests in creating a sustainable program that aligns their recreation sites with visitors' desires and use. FSM ID 2310-2003-1 requires facility master plans be developed for all facilities.

Recreation Facility Analysis identifies actions proposed for the short-term and sets the stage for long-term recreation sites planning. The Recreation Facility Analysis goals are to:

10. Improve customer satisfaction;
11. Provide recreation opportunities consistent with the Forest recreation "niche;"
12. Operate and maintain a financially sustainable recreation sites program to accepted quality standards; and
13. Eliminate deferred maintenance at recreation sites.

Under each of the six alternatives, decisions on the use of recreation sites and resources would still be made through other forest-level decision making processes. Since the Plan revision will have no effect on the Recreation Facility Analysis, there is no interaction between the two sets of regulations, and no cumulative effects to consider.

## **Executive Order 13112 - Invasive Species, 1999**

Ensures that Federal programs and activities to control and prevent invasive species are coordinated, effective, and efficient. It defines invasive species as "...an alien (or nonnative) whose introduction does or is likely to cause economic or environmental harm or harm to human health."

## **Pacific Northwest Region Invasive Plant Program Record of Decision.**

In 2005, the regional forester amended forest plans with the record of decision for the Preventing and Managing Invasive Plants Final Environmental Impact Statement. This amendment added invasive plant management direction to all Forest Plans in Region 6, including goals, objectives, standards, and a monitoring framework, which guide the Forests in responding to invasive plant management challenges. October 11, 2005.

## **Executive Order 13514 – Federal Leadership in Environmental, Energy, and Economic Performance**

Executive Order 13514 directs each agency to not only develop a sustainability strategy and reduce greenhouse gas emissions but to develop policies and practices to support the Federal Adaptation Strategy. Executive Order 13514 challenges the federal government to set sustainability goals for federal agencies. These goals include the ability to increase energy efficiency; measure, report, and reduce their greenhouse gas emissions from direct and indirect activities; conserve and protect water resources through efficiency, reuse, and storm-water management; eliminate waste, recycle, and prevent pollution; leverage agency acquisitions to foster markets for sustainable technologies and environmentally preferable materials, products, and services; design, construct, maintain, and operate high performance sustainable buildings in sustainable locations; strengthen the vitality and livability of the communities in which federal facilities are located; and inform federal employees about and involve them in the achievement of

27777 these goals. In July 2010, the Chief of the Forest Service announced the National Roadmap for  
27778 responding to climate change and the performance scorecard.

27779 **Executive Order 13443: Facilitation of Hunting Heritage and**  
27780 **Wildlife Conservation**

27781 In part, Executive Order 13443 directs the Secretaries of Agriculture and the Interior to facilitate  
27782 the expansion and enhancement of hunting opportunities and the management of game species  
27783 and their habitats by evaluating the effect of Agency actions on trends in hunting participation  
27784 and, where appropriate, to address declining trends and implement actions that expand and  
27785 enhance hunting opportunities for the public. The analysis evaluates the potential effect on  
27786 wildlife and hunting and shows that the alternatives would not affect the ability to expand or  
27787 enhance hunting opportunities on NFS lands in Washington.

27788 **USDA Forest Service Strategic Plan 2014-2018**

27789 This Plan provides the strategic direction that guides the Forest Service in delivering its mission.  
27790 This Plan addresses the core principles by which the Forest Service works; major issues currently  
27791 important to natural resources management and to the strategic goals upon which the agency will  
27792 focus for fiscal years (FY) 2014 through 2018. Forest Service programs and budget are aligned  
27793 with the goals and objectives in this strategic plan and as well as with the focus areas of the  
27794 Agency. The Strategic Plan contains four outcome-based oriented goals for the Forest Service:

- 27795 1. Sustain our Nation's Forests and Grasslands,  
27796 2. Deliver Benefits to the Public,  
27797 3. Apply Knowledge Globally, and  
27798 4. Excel as a High-Performing Agency.

27799 The Strategic Plan is a framework strategy under which the revised Plan fits. There are no direct  
27800 cumulative effects in connection with the Strategic Plan and this DEIS since the Strategic Plan  
27801 does not lead to any direct action on the ground or compel any policy development or  
27802 implementation. The revised Plan EIS with its emphasis on old forest management and timber  
27803 production, motorized recreation trails, access, recommended wilderness, wildlife, and riparian  
27804 and aquatic resource management will complement the Strategic Plan.

27805 **Reasonably Foreseeable Policy or Programmatic Decisions**

27806 **New Planning Rule**

27807 In June 2011, the scoping of the proposed action was initiated with the Federal Register Notice of  
27808 Intent to Prepare an EIS and Revised Forest Plan. That scoping notice indicated the Forest would  
27809 be revising its Forest Plan under the provisions of the National Forest planning regulations in  
27810 effect prior to November 9, 2000, referred to as the 1982 Planning Rule.

27811 On May 9, 2012, the agency established a new planning rule (the 2012 Planning Rule). The 2012  
27812 Rule also provides transition language at 36 CFR 219.17(b)(3), allowing the responsible official  
27813 to elect to use the provisions of the prior planning regulations to prepare plan amendments and  
27814 revisions. The responsible official has elected to continue to follow the provisions of the planning  
27815 regulations in effect prior to May 9, 2012 as indicated in the 2011 Notice of Intent. However, in

27816 consideration of transition time requirements, the Forest will develop the monitoring plan per 36  
27817 CFR 219.12 of the 2012 Rule.

27818 There are no direct cumulative effects in connection with the 1982 or 2012 Rules and this DEIS  
27819 since the Planning Rules would not lead to any direct action on the ground.

## 27820 **Federal Land Assistance, Management, and Enhancement** 27821 **(FLAME) Act of 2009**

27822 The Federal Land Assistance, Management, and Enhancement (FLAME) Act of 2009 requires the  
27823 Secretary of Agriculture and the Secretary of Interior to submit to Congress a report that contains  
27824 a “cohesive wildfire management strategy.” The Wildland Fire Leadership Council, therefore,  
27825 directed the development of the National Cohesive Wildland Fire Management Strategy  
27826 (Cohesive Strategy). The Cohesive Strategy utilizes a collaborative, “from-the-ground-up”  
27827 approach built through active involvement of all levels of government and non-governmental  
27828 organizations, as well as the public, to seek national, all-lands solutions to wildland fire  
27829 management issues.

27830 The Cohesive Strategy will address the nation’s wildfire problems by focusing on three key areas:

- 27831 1. **Restore and Maintain Landscapes** — Landscapes across all jurisdictions are resilient to  
27832 disturbances in accordance with management objectives.
- 27833 2. **Fire Adapted Communities** — Human populations and infrastructure can survive a wildland  
27834 fire. Communities can assess the level of wildfire risk to their communities and share  
27835 responsibility for mitigating both the threat and the consequences.
- 27836 3. **Response to Fire** — All jurisdictions participate in making and implementing response  
27837 decisions.

27838 The National Cohesive Wildland Fire Management Strategy is an ongoing project that is being  
27839 planned in three phases. Thus far, only the first phase has been completed and it is too early in the  
27840 planning process of this national strategy to know with much detail or certainty how the strategy  
27841 may influence programs and activities that occur on the CNF. However, many of the elements  
27842 that emphasize items in the FLAME Act as well as the cohesive strategy report have already been  
27843 considered and incorporated into the Forest Plan components and are discussed in the action  
27844 alternatives and/or the effects analysis. For example, the three key wildfire problem areas that  
27845 were noted in the strategy report (i.e., Restore and Maintain Landscapes, Fire Adapted  
27846 Communities and Response to Fire), are very similar to a number of the Forest Plan revision  
27847 topics that were identified and used to revise forest plan direction. In addition, a number of other  
27848 elements in the FLAME Act (i.e., using a full range of management responses to wildfires,  
27849 allocating hazardous fuel reduction funds based on priorities, assessing impacts of climate change  
27850 on wildfires) were considered in the Forest Plan revision process. Thus, when the national  
27851 strategy is complete, it is likely that revised Forest Plan direction (which is contained in all the  
27852 action alternatives) will be consistent with the national strategy. No cumulative effects are  
27853 anticipated as a result of this national strategy.

## **Other Reasonably Foreseeable Actions**

### **Cumulative Effects and Consideration on Other Lands**

Other lands (lands outside the NFS) include lands owned or managed by: (1) federal agencies other than the Forest Service; (2) state, county, and other agencies; (3) individuals and corporations; and (4) American Indian tribes. The Forest Service does not have authority to regulate any activity or its timing on other lands. However, when an action takes place in national forests, it may cause direct, indirect, or cumulative effects on other lands. Conversely, the actions of others can influence both conditions on the national forests and the course of action taken by the Forest Service in managing the national forests.

The CNF contain portions of three counties in Washington State. All of the CNF is located in Ferry, Pend Oreille, and Stevens counties in Washington. Pend Oreille County contains the highest acreage of national forest land, with 58 percent of the county administered by the CNF.

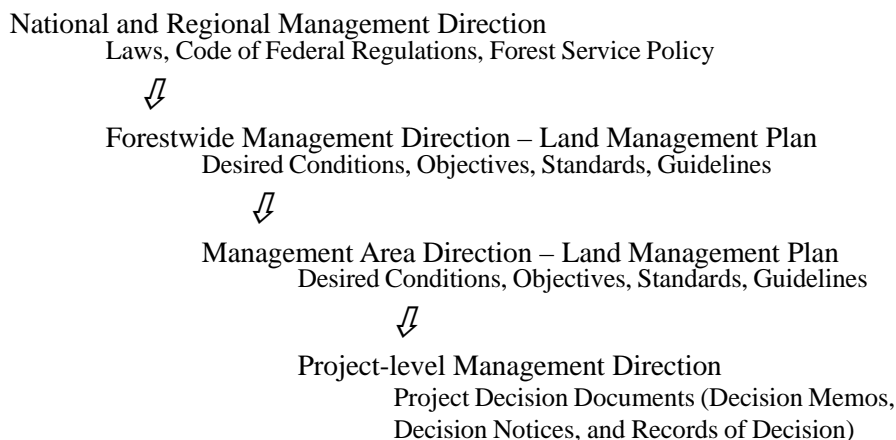
Within the analysis area, Ferry and Pend Oreille counties have the largest percentage of land under federal ownership at 80 and 58 percent respectively. Stevens County is approximately 40 percent federally owned. For all counties, most of the federal ownership is NFS lands. Ferry County has the largest percentage under tribal ownership, at about 43 percent.

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## Appendix D. Relevant Laws, Regulations, Policies, and Agreements

Direction for managing National Forest System land comes from a variety of levels. National and regional direction includes laws, executive orders, regulations, and Forest Service policy. The figure below illustrates this hierarchy of management direction beginning with national and regional direction at the highest level and ending with site-specific, project-level direction when the land management plan (the plan) is implemented.



### Hierarchy of management direction for national forests

Management direction includes applicable laws, regulations, and policies, although they generally are not restated in this plan. During plan implementation, a project must be consistent with the direction found in the plan, applicable laws, regulations, and Forest Service Manuals; applicable Forest Service Handbooks provide guidance only and do not provide required direction.

This appendix contains a listing of relevant statutes, regulations, policies, and agreements applicable to the Forest Service.

### Forest Service Directives

<http://www.fs.fed.us/im/directives/>

The following is a partial listing of national and regional Forest Service policies relevant to this plan. A complete listing can be found in Forest Service Manuals and Forest Service Handbooks. Together, these are known as the Forest Service Directives System.

The directives system is the primary basis for the management and control of all internal programs and serves as the primary source of administrative direction for Forest Service employees. The system sets forth legal authorities, management objectives, policies, responsibilities, delegations, standards, procedures, and other instructions.

The Forest Service Manual (FSM) contains legal authorities, goals, objectives, policies, responsibilities, instruction, and the necessary guidance to plan and execute assigned programs and activities.

- 27897 Forest Service Handbooks (FSH) are directives that provide instructions and guidance on how to proceed  
27898 with a specialized phase of a program or activity. Handbooks either are based on a part of the FSM or  
27899 they incorporate external directives.
- 27900 **FSM 1000** Organization and Management
- 27901 **FSM 1010** Laws, Regulations, and Orders
- 27902 **FSM 1020** Forest Service Mission
- 27903 **FSM 1400** Controls
- 27904 **FSM 1410** Management Reviews
- 27905 **FSM 1500** External Relations
- 27906 **FSM 1560** State, Tribal, County, and Local Agencies, Public and Private Organizations
- 27907 Chapter 1563 American Indian and Alaska Native Relations
- 27908 **FSM 1600** Information Resources
- 27909 **FSM 1900** Planning
- 27910 **FSM 1920** Land and Resource Management Planning
- 27911 **FSM 1923** Wilderness Evaluation
- 27912 **FSM 1950** Environmental Policy and Procedures
- 27913 **FSM 2000** National Forest Resource Management
- 27914 **FSM 2060** Ecosystem Classification, Interpretation, and Application
- 27915 **FSM 2070** Vegetation Ecology
- 27916 **FSM 2080** Noxious Weed Management
- 27917 **FSM 2200** Range Management
- 27918 **FSM 2300** Recreation, Wilderness, and Related Resources Management
- 27919 **FSM 2320** Wilderness Management
- 27920 **FSM 2330** Publicly Managed Recreation Opportunities
- 27921 FSM 2332.11 Hazard Trees
- 27922 **FSM 2350** Trail, River, and Similar Recreation Opportunities
- 27923 FSH 2309.18 Trails Management Handbook
- 27924 **FSM 2360** Heritage Program Management
- 27925 **FSM 2400** Timber Management

- 27926            **FSM 2430** Commercial Timber Sales, Pacific Northwest Region, and Colville NF’s supplements,
- 27927            Small Sales and Commercial/Personal Use Permits of Timber, Firewood, and other forest
- 27928            products
- 27929            **FSM 2470** Silvicultural Practices
- 27930            **FSM 2500** Watershed and Air Management
- 27931            **FSM 2600** Wildlife, Fish, and Sensitive Plant Habitat Management
- 27932            **FSM 2670** Threatened, Endangered and Sensitive Plants and Animals
- 27933            **FSM 2700** Special Uses Management
- 27934            FSH 2709.11 Special Uses Handbook
- 27935            **FSM 2800** Minerals and Geology
- 27936            **FSM 2900** Invasive Species Management
- 27937            **FSM 3100** Cooperative Fire Protection
- 27938            **FSM 3400** Forest Pest Management
- 27939            **FSM 4000** Research
- 27940            **FSM 4063** RNA Management Standards and Resource Protection Guidelines
- 27941            **FSM 5100** Fire Management
- 27942            FSH 5109.17 Fire and Aviation
- 27943            **FSM 5140** Hazardous Fuels Management and Prescribed Fire
- 27944            **FSM 7300** Buildings and Other Structures
- 27945            FSH 7309.11 Buildings and Related Facilities Handbook
- 27946            **FSM 7310** Buildings and Related Facilities
- 27947            **FSM 7400** Public Health and Pollution Control Facilities
- 27948            **FSM 7700** Transportation System
- 27949            **Federal Statutes**
- 27950            The following is a partial listing of relevant laws, which have been enacted by Congress. A Federal
- 27951            statute, or law, is an act or bill, which has become part of the legal code through passage by Congress and
- 27952            approved by the President (or via congressional override).
- 27953            American Indian Religious Freedom Act (AIRFA) as amended (42 U.S.C. 1996)
- 27954            Protects and preserves for American Indians their inherent right of freedom to believe, express, and
- 27955            exercise the traditional religions of the American Indian, Eskimo, Aleut, and Native Hawaiians including,

27956 but not limited to, access to sites, use, and possession of sacred objects and the freedom to worship  
27957 through ceremonial and traditional rites.

27958 **Anderson-Mansfield Reforestation and Revegetation Act of October 11, 1949**

27959 Provides for the reforestation and revegetation of National Forest System lands and other lands under the  
27960 administration or control of the Forest Service.

27961 **Antiquities Act of 1906 (16 U.S.C. 431-433)**

27962 Prevents the appropriation, excavation, injury, or destruction of any historic or prehistoric ruin or  
27963 monument, or any object of antiquity, situated on lands owned or controlled by the United States without  
27964 permission. Provides for permits, for misdemeanor-level penalties for unauthorized use, and authorizes  
27965 the President to declare by public proclamation historic landmarks, historic and prehistoric structures, and  
27966 other objects of historic and scientific interest that are situated upon lands owned or controlled by the  
27967 United States to be national monuments, and to reserve as a part thereof parcels of land needed for the  
27968 proper care and management of the objects to be protected. The Archaeological Resources Protection Act  
27969 has replaced the Antiquities Act as the authority for special use permits if the resource involved is 100  
27970 years old or greater.

27971 **Archaeological and Historic Preservation Act of 1974 (AHPA) (16 U.S.C. 469)**

27972 It is also known as the Archaeological Recovery Act. AHPA amended and expanded the Reservoir  
27973 Salvage Act of 1960 and was enacted to complement the Historic Site Act of 1935 by providing for the  
27974 preservation of significant scientific, historical, and archaeological data, which might be lost or destroyed  
27975 as the result of construction of a federally authorized dam or other construction activity. AHPA also  
27976 allows for any Federal agency responsible for a construction project to appropriate a portion of project  
27977 funds for archaeological survey, recovery, analysis, and publication of results.

27978 **Archaeological Resources Protection Act of 1979 as amended (ARPA) (16 U.S.C. 470**  
27979 **aa et seq.)**

27980 The act establishes permit requirements for removal or excavation of archaeological resources from  
27981 Federal and Indian lands. Provides criminal and civil penalties for the unauthorized excavation, removal,  
27982 damage, alteration, defacement, or the attempted unauthorized removal, damage, alteration, or  
27983 defacement of any archaeological resource, more than 100 years of age, found on Federal or Indian lands.  
27984 Prohibits the sale, purchase, exchange, transportation, receipt, or offering of any archaeological resource  
27985 obtained from public or Indian lands. The act further directs Federal land managers to survey land under  
27986 their control for archaeological resources and create public awareness programs concerning  
27987 archaeological resources.

27988 **Architectural Barriers Act of 1968**

27989 Ensures that standards for the design, construction, and alteration of buildings owned, leased, or funded  
27990 by the United States are prescribed to insure, wherever possible, that physically handicapped people have  
27991 ready access to and use of such buildings.

27992 **Bankhead-Jones Farm Tenant Act of July 22, 1937**

27993 Directed the Secretary of Agriculture to develop a program of land conservation and utilization in order to  
27994 correct maladjustments in land use and, thus, assist in such things as control of soil erosion, reforestation,  
27995 preservation of natural resources, and protection of fish and wildlife.

- 27996 **Civil Rights Act of 1964**  
27997 Provides for nondiscrimination in voting, public accommodations, public facilities, public education,  
27998 federally assisted programs, and equal employment opportunity. Title VI of the Act, Nondiscrimination in  
27999 Federally Assisted Programs, as amended (42 U.S.C. 2000d through 2000d-6) prohibits discrimination  
28000 based on race, color, or national origin.
- 28001 **Clean Air Act of August 7, 1977, as amended (1977 and 1990)**  
28002 Enacted to protect and enhance the quality of the Nation's air resources; to initiate and accelerate a  
28003 national research and development program to achieve the prevention and control of air pollution; to  
28004 provide technical and financial assistance to state and local governments in connection with the  
28005 development and execution of their air pollution prevention and control programs; and to encourage and  
28006 assist the development and operation of regional air pollution prevention and control programs.
- 28007 **Clean Water Act (see Federal Water and Pollution Control Act)**
- 28008 **Cooperative Forestry Assistance Act of July 1, 1978**  
28009 Authorizes the Secretary of Agriculture to assist in the establishment of a coordinated and cooperative  
28010 Federal, state, and local forest stewardship program for the management of non-Federal forest lands and  
28011 forest lands in foreign countries.
- 28012 **Emergency Flood Prevention (Agricultural Credit Act) Act of August 4, 1978**  
28013 Authorizes the Secretary of Agriculture to undertake emergency measures for runoff retardation and soil  
28014 erosion prevention, in cooperation with landowners and users, as the secretary deems necessary to  
28015 safeguard lives and property from floods, drought, and the products of erosion on any watershed  
28016 whenever fire, flood, or other natural occurrence is causing or has caused a sudden impairment of that  
28017 watershed.
- 28018 **Endangered Species Act of 1973, as amended**  
28019 Authorizes the determination and listing of species as endangered and threatened; prohibits unauthorized  
28020 taking, possession, sale, and transport of endangered species; authorizes the assessment of civil and  
28021 criminal penalties for violating the act or regulations; and, authorizes the payment of rewards to anyone  
28022 furnishing information leading to arrest and conviction for any violations of the act or any regulation  
28023 issued thereunder. Section 7 of the act requires Federal agencies to use their authorities to carry out  
28024 programs for the conservation of endangered and threatened species and to insure that any action  
28025 authorized, funded, or carried out by them is not likely to jeopardize the continued existence of listed  
28026 species or modify their critical habitat.
- 28027 **Energy Policy Act of 2005**  
28028 Requires the secretary of Agriculture to ensure timely action on oil and gas permits, improve collection  
28029 and retrieval of oil and gas information, and improve inspection and enforcement of permit terms (Section  
28030 362).
- 28031 **Federal Cave Resources Protection Act of November 18, 1988**  
28032 Established requirements for the management and protection of caves and their resources on Federal  
28033 lands, including allowing land managing agencies to withhold the location of caves from the public,  
28034 requiring permits for removal or collecting activities in caves on Federal lands.

28035 **Federal Insecticide, Fungicide, and Rodenticide Act of October 21, 1972**

28036 Requires the administrator of the Environmental Protection Agency to prescribe standards for the  
28037 certification of individuals authorized to use or supervise the use of any pesticide that is classified for  
28038 restricted use; regulates the sale of restricted use pesticides; and provides penalties for the unauthorized  
28039 use or sale of restricted use pesticides.

28040 **Federal Land Policy and Management Act of October 21, 1976**

28041 Requires that public lands be managed in a manner that will protect the quality of scientific, scenic,  
28042 historical, ecological, environmental, air and atmospheric, water resource, and archaeological values; that,  
28043 where appropriate, will preserve and protect certain public lands in their natural condition; that will  
28044 provide for outdoor recreation and human occupancy and use. Also states that the United States shall  
28045 receive fair market value of the use of public lands and their resources unless otherwise provided for by  
28046 law.

28047 **Federal Noxious Weed Act, 1974, as amended**

28048 Authorizes the Secretary of Agriculture to designate plants as noxious weeds by regulation; to prohibit the  
28049 movement of all such weeds in interstate or foreign commerce except under permit; to inspect, seize and  
28050 destroy products, and quarantine areas, if necessary, to prevent the spread of such weeds; and to cooperate  
28051 with other Federal, state, and local agencies, farmers associations, and private individuals in measures to  
28052 control, eradicate, prevent, or retard the spread of such weeds.

28053 **Federal State Cooperation for Soil Conservation Act of December 22, 1944**

28054 Authorized the adoption of 11 watershed improvement programs in various states for the improvement of  
28055 water runoff, waterflow retardation, and soil erosion prevention.

28056 **Federal Water Pollution Control Act and Amendments of 1972 (Clean Water Act)**

28057 Enacted to restore and maintain the chemical, physical, and ecological integrity of the Nation's waters.  
28058 Provides for measures to prevent, reduce, and eliminate water pollution; recognizes, preserves, and  
28059 protects the responsibilities and rights of states to prevent, reduce, and eliminate pollution, and to plan the  
28060 development and use (including restoration, preservation, and enhancement) of land and water resources;  
28061 and provides for Federal support and aid of research relating to the prevention, reduction, and elimination  
28062 of pollution, and Federal technical services and financial aid to state and interstate agencies and  
28063 municipalities for the prevention, reduction, and elimination of pollution.

28064 Established goals for the elimination of water pollution; required all municipal and industrial wastewater  
28065 to be treated before being discharged into waterways; increased Federal assistance for municipal  
28066 treatment plant construction; strengthened and streamlined enforcement policies; and expanded the  
28067 Federal role while retaining the responsibility of states for day-to-day implementation of the law.

28068 **Federal Water Project Recreation Act of July 9, 1965**

28069 Requires that recreation, fish, and wildlife enhancement opportunities be considered in the planning and  
28070 development of Federal water development.

28071 **Forest and Rangeland Renewable Resources Planning Act of August 17, 1974**

28072 Directs the Secretary of Agriculture to prepare a renewable resource assessment every 10 years; to  
28073 transmit a recommended renewable resources program to the President every 5 years; to develop,  
28074 maintain, and, as appropriate, revise land and resource management plans for units of the national Forest

28075 System; and to ensure that the development and administration of the resources of the National Forest  
28076 System are in full accord with the concepts of multiple use and sustained yield.

28077 **Granger-Thye Act of April 24, 1950**

28078 Authorizes the Forest Service to spread appropriated funds on buildings, lookout towers, and other  
28079 structures on lands owned by states, counties, municipalities, or other political subdivisions, corporations,  
28080 or individuals; to procure and operate aerial facilities and services for the protection of national forests; to  
28081 cooperate with and assist public and private agencies, organizations, institutions, and individuals in  
28082 performing work on nonforest land for the administration, protection, improvement, reforestation, and  
28083 other kinds of work as the Forest Service is authorized to do on Forest land; to deposit sums from timber  
28084 purchases to cover the costs of disposing of brush and debris; to permit the use of structures under its  
28085 control; to sell nursery stock; and other purposes.

28086 **Healthy Forests Restoration Act of 2003 (H.R. 1904)**

28087 Purposes are to reduce wildfire risk to communities and municipal water supplies through collaborative  
28088 hazardous fuels reduction projects; to assess and reduce the risk of catastrophic fire or insect or disease  
28089 infestation; to enhance efforts to protect watersheds and address threats to forest and rangeland health  
28090 (including wildfire) across the landscape; to protect, restore, and enhance ecosystem components such as  
28091 biological diversity, threatened/endangered species habitat, and forest productivity.

28092 **Historic Sites Act of 1935 (16 U.S.C. 461)**

28093 Establishes a policy to preserve for public use historic sites, buildings, and objects of national significance  
28094 for the benefit of the people. Authorizes the National Park Service's National Historic Landmarks  
28095 Program.

28096 **Joint Surveys of Watershed Areas Act of September 5, 1962**

28097 Authorizes and directs the Secretaries of the Army and Agriculture to make joint investigations and  
28098 surveys of watershed areas in the United States, Puerto Rico, and Virgin Islands, and to prepare joint  
28099 reports setting forth their recommendations for improvements needed for flood prevention, for the  
28100 conservation, development, utilization, and disposal of water, and for flood control.

28101 **Knutson-Vandenberg Act of June 9, 1930**

28102 Authorizes the Secretary of Agriculture to establish forest tree nurseries; to deposit monies from timber  
28103 sale purchasers to cover the costs of planting young trees, sowing seed, removing undesirable trees or  
28104 other growth, and protecting and improving the future productivity of the land; and to furnish seedlings  
28105 and/or young trees for the replanting of burned-over areas in any national park.

28106 **Land and Water Conservation Fund Act of September 3, 1964**

28107 Authorizes the appropriation of funds for Federal assistance to states in planning, acquisition, and  
28108 development of needed land and water areas and facilities and for the Federal acquisition and  
28109 development of certain lands and other areas for the purposes of preserving, developing, and assuring  
28110 accessibility to outdoor recreation resources.

28111 **Migratory Bird Treaty Act of 1918**

28112 Addresses concerns for migratory birds. In a subsequent MOU 2001, with the USFWS, the Forest Service  
28113 agreed to: (a) incorporate migratory bird habitat and population objectives and recommendations into the  
28114 agency planning process in cooperation with other governments, state, federal agencies, and non- federal

28115 partners; (b) strive to protect, restore, enhance, and manage habitat of migratory birds, and prevent the  
28116 further loss or degradation of remaining habitats on NFS lands.

28117 **Mineral Leasing Act of February 25, 1920**

28118 Provides that the deposits of certain minerals on land owned by the United States shall be subject to lease  
28119 to citizens of the United States, provided royalties on such deposits are paid to the United States.

28120 **Mineral Leasing Act for Acquired Lands Act of August 7, 1947**

28121 Extended the provisions of the “mineral leasing laws” to those lands previously acquired by the United  
28122 States for which they had not been extended, and lands thereafter acquired by the United States.

28123 **Mining and Minerals Policy Act of December 31, 1970**

28124 States that it is the policy of the Federal government to foster and encourage the development of  
28125 economically sound and stable domestic mining, minerals, metal, and mineral reclamation industries; the  
28126 orderly and economic development of domestic mineral resources, reserves, and reclamation of metals  
28127 and minerals to help assure satisfaction of industrial, security, and environmental needs; mining, mineral,  
28128 and metallurgical research to promote the wise and efficient use of our natural and reclaimable mineral  
28129 resources; and the study and development of methods for the disposal, control, and reclamation of mineral  
28130 waste products and the reclamation of mined land.

28131 **Multiple-Use Sustained Yield Act of June 12, 1960**

28132 States that it is the policy of Congress that the national forests are established and shall be administered  
28133 for outdoor recreation, range, timber, watershed, and wildlife and fish purposes, and authorizes and  
28134 directs the Secretary of Agriculture to develop and administer the renewable surface resources of the  
28135 national forest for multiple use and sustained yield of products and services.

28136 **National Environmental Policy Act of January 1, 1971**

28137 Directs all Federal agencies to consider and report the potential environmental impacts of proposed  
28138 Federal actions, and established the Council on Environmental Quality.

28139 **National Forest Management Act of October 22, 1976**

28140 The National Forest Management Act reorganized, expanded, and otherwise amended the Forest and  
28141 Rangeland Renewable Resources Planning Act of 1974, which called for the management of renewable  
28142 resources on National Forest System lands. The National Forest Management Act requires the secretary of  
28143 Agriculture to assess forest lands, develop a management program based on multiple-use, sustained-yield  
28144 principles, and implement a resource management plan for each unit of the National Forest System. It is  
28145 the primary statute governing the administration of national forests.

28146 **National Forest Roads and Trails Act of October 13, 1964**

28147 Authorizes the Secretary of Agriculture to provide for the acquisition, construction, and maintenance of  
28148 forest development roads within and near the national forests through the use of appropriated funds,  
28149 deposits from timber sale purchasers, cooperative financing with other public agencies, or a combination  
28150 of these methods. The act also authorizes the secretary to grant rights-of-way and easement over National  
28151 Forest System lands.

28152 **National Historic Preservation Act of 1966 as amended (NHPA) (16 U.S.C. 470)**

28153 Sets forth the Federal government’s policy to preserve and protect historical and cultural resources. This  
28154 act states that the historical and cultural foundations of the Nation should be preserved as a living part of



28155 the Nation's community life and development in order to give a sense of orientation to the American  
28156 people. Directs all Federal agencies to take into account the effects of their undertakings (actions,  
28157 financial support, and authorizations) on properties included in or eligible for the National Register.  
28158 Establishes inventory, nomination, protection, and preservation responsibilities for federally owned  
28159 historic properties. As amended extends the policy in the Historic Sites Act to state and local historical  
28160 sites as well as those of national significance, expands the National Register of Historic Places,  
28161 establishes the Advisory Council on Historic Preservation and the State Historic Preservation Officers,  
28162 and requires agencies to designate Federal preservation officers. Establishes criteria for designating tribal  
28163 historic preservation officers to assume the functions of a state historic preservation officer on tribal  
28164 lands.

#### 28165 **National Trails System Act of October 2, 1968**

28166 Established a national system of recreation, scenic, and historic trails by designating the initial  
28167 components of the system and prescribing the methods and standards through which additional  
28168 components may be added.

#### 28169 **Native American Graves Protection and Repatriation Act of 1990 (NAGPRA) (25 U.S.C. 28170 3001)**

28171 Provides a process for Federal agencies to return Native American human remains, funerary objects, and  
28172 sacred objects to the ancestors and appropriate Native American tribe. Includes provisions for the  
28173 intentional excavation and unanticipated discovery of Native American cultural items on Federal and  
28174 tribal lands, and penalties for noncompliance and illegal trafficking. The act requires agencies to identify  
28175 holdings of such remains and objects and to work with appropriate Native American groups toward their  
28176 repatriation.

#### 28177 **North American Wetland Conservation Act of 1989**

28178 Directs Federal agencies to cooperate with the Director of the U.S. Fish and Wildlife Service to restore,  
28179 protect, and enhance the wetland ecosystems and other habitats for migratory birds, fish and wildlife  
28180 within the lands and waters of each agency to the extent consistent with the mission of such agency and  
28181 existing statutory authorities.

#### 28182 **Occupancy Permits Act of March 4, 1915**

28183 Authorizes the Secretary of Agriculture to permit, under such regulations as he may prescribe, the use and  
28184 occupancy of suitable areas of land within the national forests for the purpose of constructing or  
28185 maintaining hotels, resorts, or other structures necessary or desirable for recreation, public convenience,  
28186 or safety; to permit the use and occupancy of suitable land for the purpose of constructing or maintaining  
28187 summer homes; to permit the use and occupancy of suitable land for the purpose of constructing or  
28188 maintaining buildings, structures, and facilities for industrial or commercial purposes when such use is  
28189 consistent with other uses of the national forest; and to permit any state or political subdivision thereof to  
28190 use or occupy suitable land for the purpose of constructing or maintaining buildings, structures, or  
28191 facilities necessary or desirable for education or for any other public use or in connection with any other  
28192 public activity.

#### 28193 **Organic Administration Act of June 4, 1897**

28194 Authorizes the President to modify or revoke any instrument creating a national forest; states that no  
28195 national forest may be established except to improve and protect the forest within its boundaries, for the  
28196 purpose of securing favorable conditions of waterflows, and to furnish a continuous supply of timber for

- 28197 the use and necessities of citizens of the United States. Authorizes the Secretary of Agriculture to  
28198 promulgate rules and regulations to regulate the use and occupancy of national forests.
- 28199 **Plant Protection Act of 2000 as amended by the Noxious Weed Control and Eradication**  
28200 **Act of 2004**
- 28201 Authorizes the Secretary of Agriculture to prohibit or restrict the importation, entry, exportation, or  
28202 movement in interstate commerce of any plant, plant product, biological control organism, noxious weed,  
28203 article, or means of conveyance, if the Secretary determines that the prohibition or restriction is necessary  
28204 to prevent the introduction into the United States or the dissemination of a plant pest or noxious weed  
28205 within the United States. This act defines the term "Noxious Weed".
- 28206 **Public Rangelands Improvement Act of October 25, 1978**
- 28207 Establishes and reaffirms the national policy and commitment to inventory and identifying current public  
28208 rangeland conditions and trends; manage, maintain and improve the condition of public rangelands so that  
28209 they become as productive as feasible for all rangeland values in accordance with management objectives  
28210 and the land use planning process; and charge a fee for public grazing use which is equitable.
- 28211 **Rehabilitation Act of 1973, as amended**
- 28212 States that it is national policy that the Federal government plays a leadership role in promoting the  
28213 employment of individuals with disabilities, and in assisting states and providers of services in fulfilling  
28214 the aspirations of such individuals with disabilities for meaningful and gainful employment and  
28215 independent living.
- 28216 **Religious Freedom Restoration Act (RIFRA) (42 U.S.C. § 2000bb)**
- 28217 Government shall not substantially burden a person's exercise of religion even if the burden results from a  
28218 rule of general applicability, except when the government demonstrates that application of the burden to  
28219 the person is in a furtherance of a compelling governmental interest; and is the least restrictive means of  
28220 furthering that compelling governmental interest.
- 28221 **Safe Drinking Water Amendments of November 18, 1977**
- 28222 Amended the Safe Drinking Water Act to authorize appropriations for research conducted by the  
28223 Environmental Protection Agency relating to safe drinking water; Federal grants to states for public water  
28224 system supervision programs and underground water source protection programs; and grants to assist  
28225 special studies relating to the provision of a safe supply of drinking water.
- 28226 **Sikes Act of 1960, as amended October 18, 1974**
- 28227 This act authorizes the Forest Service to cooperate with state wildlife agencies in conservation and  
28228 rehabilitation programs for fish, wildlife, and plants considered threatened or endangered.
- 28229 **Small Tracts Act of January 22, 1983**
- 28230 Authorizes the Secretary of Agriculture to sell, exchange, or interchange by quitclaim deed all right, title  
28231 and interest, including the mineral estate, of the United States in and to certain lands within the national  
28232 forest when he determines it to be in the public interest.
- 28233 **Soil and Water Resources Conservation Act of November 18, 1977**
- 28234 Provides for a continuing appraisal of the United States' soil, water and related resources, including fish  
28235 and wildlife habitats, and a soil and water conservation program to assist landowners and land users in  
28236 furthering soil and water conservation.

28237 **Surface Mining Control and Reclamation Act of August 3, 1977**

28238 Authorizes the Secretary of Agriculture to enter into agreements with landowners, providing for land  
28239 stabilization, erosion, and sediment control, and reclamation through conservation treatment, including  
28240 measures for the conservation and development of soil, water, woodland, wildlife, and recreation  
28241 resources, and agricultural productivity of such lands.

28242 **Tribal Forest Protection Act**

28243 Authorizes the Secretaries of the Interior and Agriculture to enter into an agreement or contract with  
28244 Indian tribes meeting certain criteria to carry out projects to protect Indian forest land.

28245 **U.S. Mining Laws (Public Domain Lands) Act of May 10, 1872**

28246 Provides that all valuable mineral deposits in lands belonging to the United States, both surveyed and  
28247 unsurveyed, are free and open to exploration and purchase, and the lands in which they are found to  
28248 occupation and purchase by citizens of the United States and those who have declared their intention to  
28249 become such, under regulations prescribed by law, and according to the local customs or rules of miners,  
28250 so far as the same are applicable and not inconsistent with the laws of the United States. There are a  
28251 number of acts which modify the mining laws as applied to local areas by prohibiting entry altogether or  
28252 by limiting or restricting the use which may be made of the surface and the right, title, or interest which  
28253 pass through patent.

28254 **Water Quality Improvement Act of April 3, 1970**

28255 Amends the prohibitions of oil discharges, authorizes the President to determine quantities of oil which  
28256 would be harmful to the public health or welfare of the United States, to publish a national contingency  
28257 plan to provide for coordinated action to minimize damage from oil discharges. Requires performance  
28258 standards for marine sanitation device and authorizes demonstration projects to control acid or other mine  
28259 pollution, and to control water pollution within the watersheds of the Great lakes. Requires that applicants  
28260 for Federal permits for activities involving discharges into navigable waters provide state certification that  
28261 they will not violate applicable water quality standards.

28262 **Water Resources Planning Act of July 22, 1965**

28263 Encourages the conservation, development, and utilization of water and related land resources of the  
28264 United States on a comprehensive and coordinated basis by the Federal government, states, localities, and  
28265 private enterprises.

28266 **Watershed Protection and Flood Prevention Act of August 4, 1954**

28267 Establishes policy that the Federal government should cooperate with states and their political  
28268 subdivisions, soil or water conservation districts, flood prevention or control districts, and other local  
28269 public agencies for the purposes of preventing erosion, floodwater, and sediment damages in the  
28270 watersheds of the rivers and streams of the United States; Furthering the conservation, development,  
28271 utilization, and disposal of water, and the conservation and utilization of land; and thereby preserving,  
28272 protecting, and improving the nation's land and water resources and the quality of the environment.

28273 **Wild and Scenic Rivers Act of October 2, 1968**

28274 Instituted a National Wild and Scenic Rivers System by designating the initial components of that system,  
28275 and by prescribing the methods by which and standards according to which additional components may  
28276 be added to the system from time to time.

28277 **Wilderness Act of September 3, 1964**

28278 Established a National Wilderness Preservation System to be composed of federally owned areas  
28279 designated by Congress as “wilderness areas” and administered for the use and enjoyment of the  
28280 American people in such manner as will leave them unimpaired for future use and enjoyment as  
28281 wilderness. Provides for the protection of these areas, the preservation of their wilderness character, and  
28282 for the gathering and dissemination of information regarding their use and enjoyment as wilderness. The  
28283 act states that no Federal lands shall be designated as “wilderness areas” except as provided for in the act  
28284 or by a subsequent act.

28285 **Regulations**

28286 Below is a partial listing of relevant regulations. Federal executive departments and administrative  
28287 agencies write regulations to implement laws. Regulations are secondary to law. However, both laws and  
28288 regulations are enforceable.

28289 **33 CFR 323 Permits for Discharges of Dredged or Fill material into Waters of the United**  
28290 **States**

28291 This regulation prescribes those special policies, practices, and procedures to be followed by the Corps of  
28292 Engineers in connection with the review of applications for permits to authorize the discharge of dredged  
28293 or fill material into waters of the United States.

28294 **36 CFR 60 National Register of Historic Places**

28295 Sets forth the procedural requirements for listing properties on the National Register.

28296 **36 CFR 61 Procedures for Approved State and Local Government Historic Preservation**  
28297 **Programs**

28298 **36 CFR 63 Determinations of Eligibility for Inclusion in the National Register of Historic**  
28299 **Places**

28300 Developed to assist agencies in identifying and evaluating the eligibility of properties for inclusion in the  
28301 National Register, and to explain how to request determinations of eligibility.

28302 **36 CFR 65 National Historic Landmarks Program**

28303 Sets forth criteria for establishing national significance and the procedures used by the Department of the  
28304 Interior for conducting the National Historic landmarks Program.

28305 **36 CFR 68 The Secretary of the Interior’s Standards for Historic Properties**

28306 Sets forth standards for the treatment of historic properties containing standards for preservation,  
28307 rehabilitation, restoration, and reconstruction. These standards apply to all proposed grant-in-aid  
28308 development projects assisted through the national Historic Preservation Fund.

28309 **36 CFR 79 Curation of Federally Owned and Administered Archaeological Collections**

28310 **36 CFR 212 Forest Development Transportation System**

28311 Sets forth the requirements for the development and administration of the forest transportation system.

28312 **36 CFR 219 Planning**

28313 Sets forth a process for developing, adopting, and revising land and resource management plans.

- 28314    **36 CFR 228 Minerals**  
28315    Sets forth the rules and procedures through which use of the surface of National Forest System lands, in  
28316    connection with mining and mineral operations, shall be conducted so as to minimize adverse  
28317    environmental impacts on National Forest System surface resources.
- 28318    **36 CFR 241 Fish and Wildlife**  
28319    Sets forth the rules and procedures relating to management, conservation, and protection of fish and  
28320    wildlife resources on National Forest System lands.
- 28321    **36 CFR 251 Land Uses**  
28322    Sets forth the rules and procedures relating to the use and occupancy of National Forest System lands.
- 28323    **36 CFR 254 Landownership Adjustments**  
28324    Sets forth the rules and procedures relating to exchange and conveyance of National Forest System lands.
- 28325    **36 CFR 261 Prohibitions**  
28326    Sets forth the general prohibitions relating to the use and occupancy of national Forest System lands.
- 28327    **36 CFR 291 Occupancy and Use of Developed Sites and Areas of Concentrated Public**  
28328    **Use**  
28329    Provides for fees charged for the occupancy and use of developed sites and areas of concentrated public  
28330    use
- 28331    **36 CFR 293 Wilderness-Primitive Areas**  
28332    Sets forth requirements for the administration of wilderness and primitive areas.
- 28333    **36 CFR 294 Special Areas**  
28334    Sets forth the requirements for designation of special recreation areas.
- 28335    **36 CFR 296 Protection of Archaeological Resources**  
28336    Implements the provisions of the Archaeological Resources Protection Act.
- 28337    **36 CFR 297 Wild and Scenic Rivers**  
28338    Sets forth the rules and procedures relating to Federal assistance in the construction of water resources  
28339    projects affecting wild and scenic rivers or study rivers on lands administered by the Secretary of  
28340    Agriculture.
- 28341    **36 CFR 800 Protection of Historic Properties**  
28342    Sets forth the provisions for the administration of the National Historic Preservation Act.
- 28343    **40 CFR 121-135 Water Programs**  
28344    Sets forth the provisions for the administration of water programs including: state certification of  
28345    activities requiring a Federal license or permit; EPA administered permit programs; state program  
28346    requirements; procedures for decision-making; criteria and standards for the National Pollutant Discharge  
28347    Elimination System; toxic pollutant effluent standards; water quality planning and management; water  
28348    quality standards; water quality guidance for the Great Lakes System; secondary treatment regulation;

28349 and, prior notice of citizen suits. See Title 40 (Protection of Environment), Chapter 1 (Environmental  
28350 Protection Agency), subchapter D (Water Programs).

28351 **40 CFR 1500 Council on Environmental Quality**

28352 Council on Environmental Quality regulations implementing the National Environmental Policy Act.

28353 **43 CFR 10 Native American Graves Protection and Repatriation Act Regulation**

28354 Implements the provisions of the Native American Graves and Repatriation Act of 1990.

28355 **Executive Memorandum (April 29, 1994) Government-to-Government Relations with**  
28356 **Native American Tribal Governments (59 Federal Regulation 22951)**

28357 Directs executive departments and agencies that undertake activities affecting Native American Tribal  
28358 rights or trust resources, such activities should be implemented in a knowledgeable, sensitive manner  
28359 respectful of Tribal sovereignty.

28360 **Executive Orders**

28361 Below is a partial listing of relevant executive orders. Executive orders are official documents by which  
28362 the President provides instructions to executive departments and agencies. It may adopt guidelines, rules  
28363 of conduct, or rules of procedure for government employees or units of government. It can also establish  
28364 an advisory body or task force.

28365 **E.O. 11593 Protection and Enhancement of the Cultural Environment**

28366 States that the Federal government shall provide leadership in preserving, restoring, and maintaining the  
28367 historic and cultural environment of the nation, and that Federal agencies shall administer the cultural  
28368 properties under their control in a spirit of stewardship and trusteeship for future generations; initiate  
28369 measures necessary to direct their policies, plans, and programs in such a way that federally-owned sites,  
28370 structures, and objects of historical, architectural, or archaeological significance are preserved, restored,  
28371 and maintained for the inspiration and benefit of the people; and, in consultation with the Advisory  
28372 Council on Historic Preservation, institute procedures to assure that Federal plans and programs  
28373 contribute to the preservation and enhancement of non-federally owned sites, structures, and objects of  
28374 historical, architectural, or archaeological significance.

28375 **E.O. 11644 (amended by E.O. 11989) Use of Off-Road Vehicles, 1972, 1977**

28376 Establishes policies and provides for procedures that ensure that the use of off-road vehicles on public  
28377 lands will be controlled and directed so as to protect the resources of those lands, to promote the safety of  
28378 all users of those lands, and to minimize conflicts among the various uses of those lands.

28379 **E.O. 11988 Floodplain Management, 1977**

28380 Requires each Federal agency to provide leadership and to take action to reduce the risk of flood loss, to  
28381 minimize the impact of floods on human safety, health and welfare, and to restore and preserve the natural  
28382 and beneficial values served by floodplains in carrying out its responsibilities for acquiring, managing,  
28383 and disposing of Federal lands and facilities; providing federally undertaken, financed, or assisted  
28384 construction and improvements; and conducting Federal activities and programs affecting land use  
28385 including, but not limited to, water and related land resources planning, regulating, and licensing  
28386 activities.

28387 **E.O. 11990 Protection of Wetlands, 1977**

28388 Requires each Federal agency to provide leadership and to take action to minimize the destruction, loss,  
28389 or degradation of wetlands, and to preserve and enhance the natural and beneficial values of wetlands in  
28390 carrying out the agency's responsibilities for acquiring, managing, and disposing of Federal lands and  
28391 facilities; providing federally undertaken, financed, or assisted construction and improvements; and  
28392 conducting Federal activities and programs affecting land use including, but not limited to, water and  
28393 related land resources planning, regulating, and licensing activities.

28394 **E.O. 12898 Federal Actions to Address Environmental Justice in Minority Populations**  
28395 **and Low-Income Populations, 1994**

28396 Addresses environmental justice in minority and low-income populations and is designed to focus Federal  
28397 attention on the environmental and human health conditions in minority communities and low-income  
28398 communities with the goal of achieving environmental justice. The order is also intended to promote  
28399 nondiscrimination in Federal programs substantially affecting human health and the environment, and to  
28400 provide minority communities and low-income communities' access to public information on, and an  
28401 opportunity for public participation in, matters relating to human health or the environment.

28402 **E.O. 13007 Indian Sacred Sites, 1996**

28403 Requires each executive branch agency with statutory or administrative responsibility for the management  
28404 of Federal lands, to the extent practicable, permitted by law, and not clearly inconsistent with essential  
28405 agency functions, to accommodate access to and ceremonial use of Indian sacred sites by Indian religious  
28406 practitioners and to avoid adversely affecting the physical integrity of such sacred sites. Where  
28407 appropriate, agencies shall maintain the confidentiality of sacred sites.

28408 **E.O. 13112 Invasive Species, 1999**

28409 Ensures that Federal programs and activities to control and prevent invasive species are coordinated,  
28410 effective, and efficient. It defines invasive species as "...an alien (or nonnative) whose introduction does  
28411 or is likely to cause economic or environmental harm or harm to human health."

28412 **E.O. 13175 Consultation and Coordination with Indian Tribal Governments, 2000**

28413 Promotes regular and meaningful consultation and collaboration with tribal officials in the development  
28414 of Federal policies that have tribal implications, strengthens the United States government-to-government  
28415 relationships with Indian tribes, and reduces the imposition of unfunded mandates upon Indian tribes.

28416 **E.O. 13186 Responsibility of Federal Agencies to Protect Migratory Birds, 2001**

28417 Directs Federal agencies, as practicable, to support the conservation of migratory birds, restore and  
28418 enhance the habitat of migratory birds, prevent or abate pollution or detrimental alteration of the  
28419 environment for the benefit of migratory birds, ensure agency plans and actions promote programs and  
28420 recommendations of comprehensive migratory bird planning efforts such as Partners-in-Flight, ensure that  
28421 environmental analyses of Federal actions required by NEPA evaluate effect on migratory birds, and  
28422 promote research, education, and training related to conservation of migratory birds.

28423 **E.O. 13287 Preserve America, 2003**

28424 Advances the protection, enhancement, and contemporary use of the historic properties owned by the  
28425 Federal Government, and promotes intergovernmental cooperation and partnerships for the preservation  
28426 of historic properties. Directs Federal agencies to increase their knowledge of historic resources in their  
28427 care and to enhance the management of these assets. Encourages agencies to seek partnerships with state,  
28428 tribal, and local governments and the private sector to make more efficient and informed use of their

28429 resources for economic development and other recognized public benefits. Better combines historic  
28430 preservation and nature tourism by directing agencies to assist in the development of local and regional  
28431 nature tourism programs using the historic resources that area a significant feature of many state and local  
28432 economies.

28433 **E.O. 13327 Federal Real Property Asset Management, 2004**

28434 Establishes the Federal Real Property Council to develop guidance for, and facilitate the success of, each  
28435 agency's asset management plan. The Council is to be composed exclusively of all agency Senior Real  
28436 Property Officers, the Controller of the Office of Management and Budget, the Administrator of General  
28437 Services, and any other full-time or permanent part-time Federal officials or employees as deemed  
28438 necessary by the Chairman of the Council. The Senior Real Property Officer is required to develop and  
28439 implement an agency asset management planning process that meets the form, content, and other  
28440 requirements established by the Federal Real Property Council. In relation to cultural resources, the  
28441 Senior Property Officer shall incorporate planning and management requirements for historic property  
28442 under Executive Order 132.

28443 **E.O. 13443 Facilitation of Hunting Heritage and Wildlife Conservation, 2007**

28444 Directs Federal agencies with programs and activities that have a measurable effect on public  
28445 management, outdoor recreation, and wildlife management, to facilitate the expansion and enhancement  
28446 of hunting opportunities and the management of game species and their habitat.

28447 **E.O. of 1872 Confederated Tribes of the Colville Reservation; North-Half Agreement of**  
28448 **1891 (27 Stat. 62)**

28449 At its inception by an executive order issued by President Grant on April 9, 1872, the Colville Indian  
28450 Reservation was in a different location from today's reservation. A subsequent executive order was issued  
28451 on July 2, 1872 by President Grant, which moved the Colville Indian Reservation to its present location.  
28452 On April 19, 1879 and March 6, 1880, two tracts of land called the Moses Columbia Reservation were  
28453 designated where the present day city of Wenatchee lies. Twenty years after the Colville Indian  
28454 Reservation was moved to its present location, the north half of the reservation was ceded to the United  
28455 States by an act of Congress (27 Stat. 62).

28456 **E.O. 1904 Kalispel Tribe (1914)**

28457 On March 23, 1914, President Wilson, by executive order, formally set aside and reserved the territory  
28458 described for the use and occupancy of the Kalispel Indians.

28459 **E.O. of 1881 Spokane Tribe of Indians**

28460 On January 18, 1881, President Hayes, by executive order, formally set aside and reserved the territory  
28461 described in the agreement of August 1877, for the use and occupancy of the Spokane Indians.

28462 **The USDA policy**

28463 For wildlife, fish, and plant habitat management in NFS lands is presented in Departmental Regulation  
28464 9500-4. This policy states that by means of the planning process habitat goals will be established for  
28465 plants and animals, including wildlife and fish species in demand for hunting, fishing, and trapping and  
28466 those with special habitat needs. This regulation also directs the Forest Service to: (a) manage habitats for  
28467 all existing native and desired nonnative plants, fish, and wildlife species in order to maintain viable  
28468 populations of such species; (b) conduct activities and programs to assist in the identification and  
28469 recovery of threatened and endangered plant and animal species; and (c) avoid actions which may cause a  
28470 species to become threatened or endangered



28471 **State Regulations**

28472 Washington Clean Air Act (RCW 70.94)

28473 PL 98-339 Washington State Wilderness Act of 1984

28474 Designates the Salmo-Priest Wilderness

28475 **Programmatic Agreement**

28476 Memorandum of Understanding between the U.S. Department of Agriculture Forest Service and the U.S.  
28477 Fish and Wildlife Service to Promote the Conservation of Migratory Birds

28478 **Wyden Amendment**

28479 Authorizes the Forest Service to enter into cooperative agreements to benefit resources within watersheds  
28480 on National Forest System lands. Agreements may be with willing Federal, State, Tribal, and local  
28481 governments, private and non-government entities, and landowners to conduct activities on public or  
28482 private lands. Under this authority, the Forest Service may enter into agreements to support or conduct  
28483 invasive species management activities on aquatic and terrestrial areas owned by local and State  
28484 governments, Tribes, other Federal agencies, and private individuals or organizations, to benefit and  
28485 protect the National Forest System and other resources within a watershed at risk from invasive species.

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